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The Private Forest Landowners of Michigan

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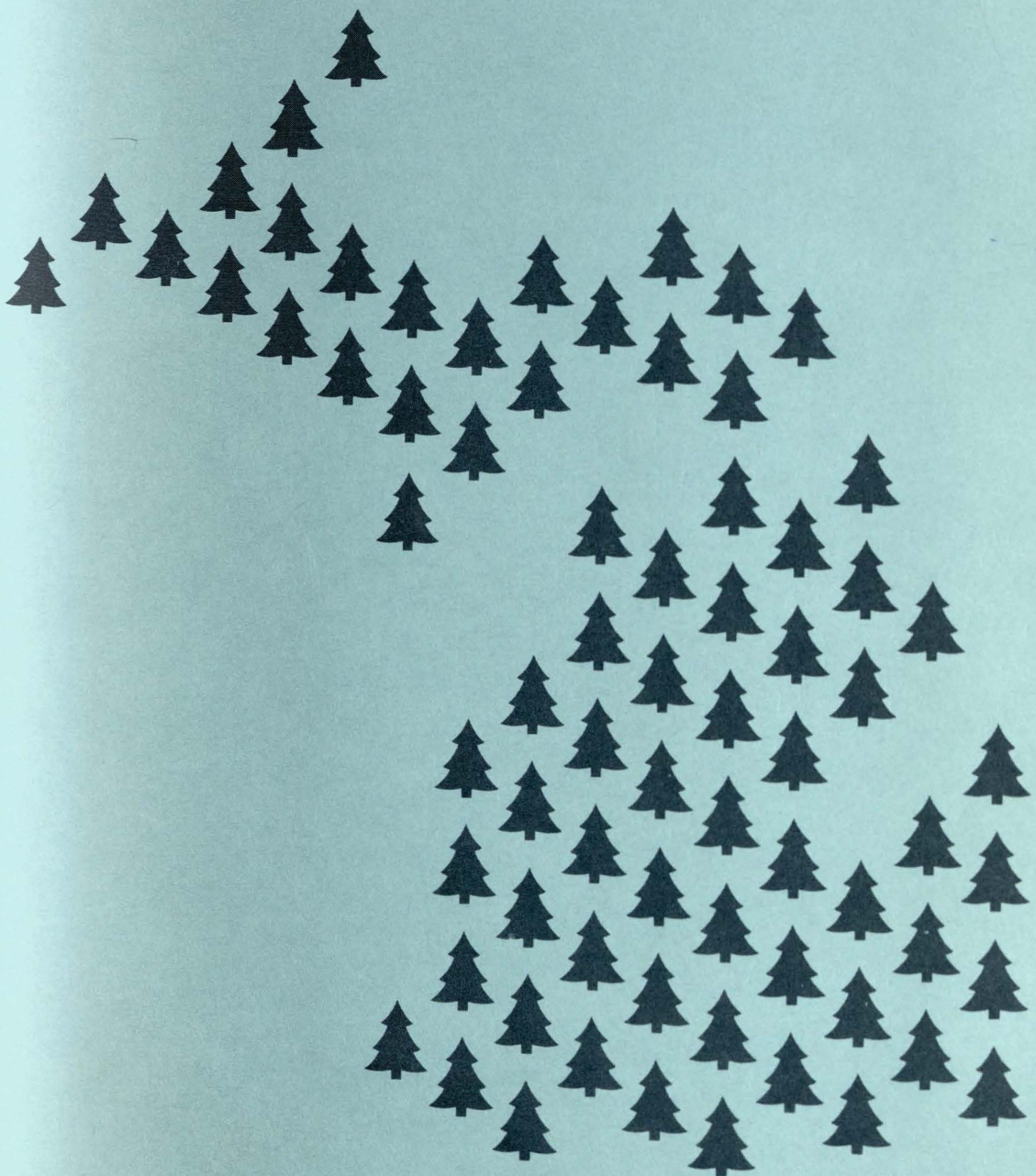

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THE PRIVATE FOREST LANDOWNERS OF MICHIGAN

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Michigan's nonindustrial privately owned forests constitute 50 percent of the total commercial forest land in the State. This valuable renewable natural resource provides a base for diversified economic activity as well as recreational and esthetic amenities vital to society's well-being. To make sound decisions relative to the development and management of these lands, agencies, firms, and individuals need a comprehensive knowledge of them.

This report addresses only nonindustrial private ownerships having from 1 acre of commercial forest land up to 9,999 acres. Lands held by forest industry and public agencies are not included, nor are private holdings of more than 10,000 acres. The results are based on a randomly selected sample of forest landowners expanded to represent all small private forest land ownerships in Michigan. This study complements recently published reports containing timber resource acreage and volume information for Michigan and its four Forest Survey Units (Spencer 1982, Smith 1982, Jakes 1982, Hahn 1982, Raile and Smith 1983) (fig. 1). The ownership information will be useful to those involved in planning and evaluating forest management programs, procuring timber and initiating industrial development, and assessing the land use objectives of this diverse ownership class.

The sample was based on a random distribution of points overlaid on aerial photographs, and thus is land- rather than owner-oriented. The ground location of each survey point was determined and the owner of record identified from the legal description at the County land department. Questionnaires were mailed to owners, and their responses provided the basis for our estimates. The questionnaire was designed to determine reasons for owning and attitudes, opinions, and actions relative to forest management, public and private recreation use, timber harvesting, benefits of ownership, and related owner and ownership characteristics.

PRIVATE FOREST OWNERSHIP

An estimated 384,700 private owners hold 8,798,400 acres of commercial forest land in Michigan (again, this does not include forest industry land or private ownerships greater than 10,000 acres). Although there are a large number of small-tract owners (54 percent of the ownerships are less than 10 acres), most of the private land is controlled by persons owning larger areas. For example, less than 1 percent of the private owners hold 500 acres or more, but their lands account for 12 percent of the total area; in contrast, the 54 percent of the owners who hold less than 10 acres collectively account for only about 8 percent of the area (table 1, fig. 2).

The average size of holding is 23 acres when all private owners are considered, but it increases to 46 acres when ownerships of less than 10 acres are omitted. The average holding varies from 12 acres in the southern Lower Peninsula (SLP) to 63 acres in the eastern Upper Peninsula (EUP). The northern Lower Peninsula (NLP) contains the most private commercial forest acreage, but the SLP has the most ownership units.

Figure 1.—*Distribution of private ownerships in Michigan by Forest Survey Unit.*

Number of Tracts

Most private owners hold only one or two tracts of forest land. Eighty percent of the owners hold only one tract, and these ownerships account for 61 percent of the forest land (table 2, fig. 3). In addition, 80 percent of multi-tract owners have only two forest tracts. Owners with land in the Upper Peninsula report having more than one tract more often than owners in the Lower Peninsula; consequently, the former have a higher proportion of their acreage in multi-tract ownerships.

Distance from Residence

The distance owners live from their forest land may influence the methods foresters use to generate interest in more intensive forest management. Owners living close to their forest land might be able to supervise, observe, or carry out practices more easily than those whose land is far from home. We classed owners as residents (living less than 25 miles from their nearest forest tract), nonresidents (living 50 miles or more from their nearest tract) and intermediate (living 25 to 49 miles from their nearest tract). A high proportion of the resident owners reported living on the forest tract or within 1 or 2 miles of it; very few holdings fell in the 25-49 mile distance, or the intermediate class (table 3).

The proportion of resident ownership was highest in the SLP (77 percent); these owners accounted for 81 percent of private land in the Unit. In the other three Units the proportions were lower: roughly 60

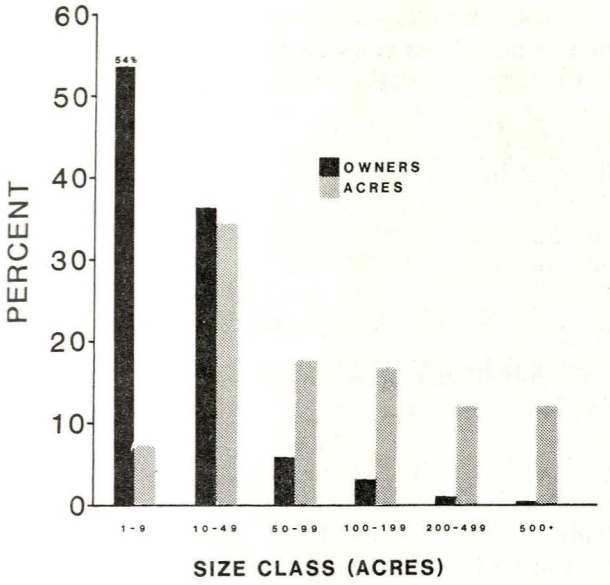

Figure 2.—*Distribution of private ownerships by size class of ownership.*

percent resident ownership accounting for 55 percent of the land area in all three (table 4, fig. 4).

One-Tract vs. Multi-Tract Properties

Our analysis separated those who reported owning only one tract of forest land from those reporting two or more tracts. The distance from residence to forest is explicitly defined for one-tract ownerships, but for multi-tract holdings the situation is not so clear.

For one-tract holdings, 71 percent of the owners are residents; they hold 57 percent of the land in this category (table 5). Multi-tract ownerships are more difficult to analyze. Sixty-nine percent of the owners are residents and, while they hold 71 percent of the acreage in this category, the portion of the acreage close-by is not defined. When we look at distance to the farthest tract, we find that a high proportion of respondents did not answer this part of the question (table 6). Very often, respondents filled in only one distance when the distance to the nearest and farthest tract was about the same. One observation that can be drawn from the sample is that when the distance between the two tracts is considerable, the farthest tract is the largest in nearly every case.

If we ignore the 4 percent of the owners who did not tell us how many tracts they owned, we can summarize the ownership patterns as follows: 83 percent of the owners hold only one tract, accounting for 62 percent of the commercial forest area (fig. 5). Seventeen percent of the owners have more than one tract, accounting for 38 percent of the area. About one-fifth of the owners live 50 miles or more from their nearest tract, accounting for 38 percent of the forest area.

Tenure

Tenure may have considerable impact on decisions to invest in forest management. Thirty to fifty years may elapse before the benefits of thinning, pruning, or other improvements yield returns to the owner. An even longer period may be required for reforestation efforts. We estimate that about two-thirds of the individual owners have held 52 percent of the forested acres for 20 years or less (table 7). Eight percent of the individual owners did not tell us the date they acquired forest land. These data represent

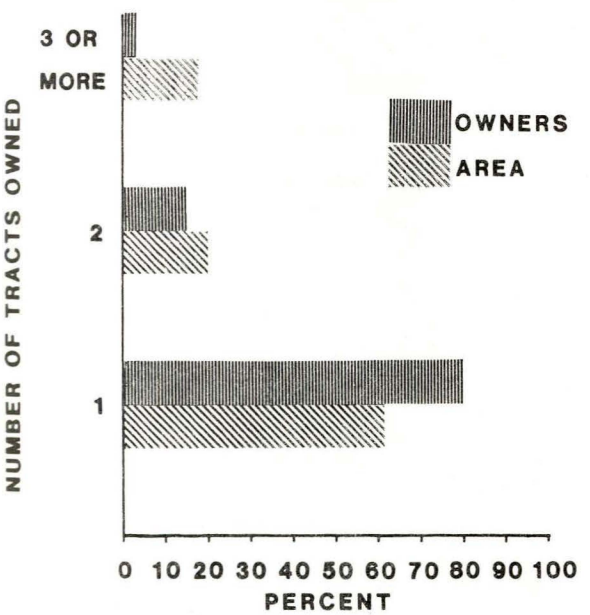

Figure 3.—*Distribution of private ownership units by number of tracts owned.*

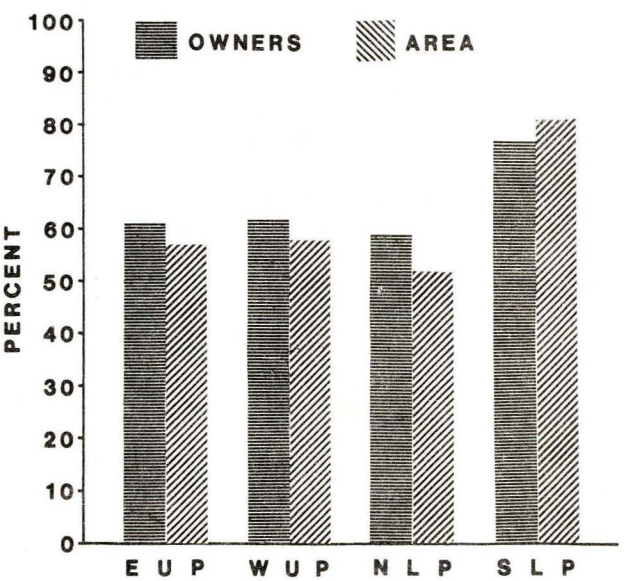

Figure 4.—*Resident ownership by Forest Survey Unit.*

a maximum tenure, in that many owners may obtain additional tracts subsequent to their initial acquisition (Carpenter 1985). The other forms of ownership show a similar pattern, except 41 percent did not answer the question. Forty-nine percent of the business and group ownership acreage has been held longer than 20 years, compared with 42 percent of the individual acreage.

FORM OF OWNERSHIP

Ninety-three percent of all private ownership units are individual, joint, or undivided estates (table 8). The latter were included here because all sampled estate units were controlled by a single decisionmaker. These estates represent an estimated 1,000 ownerships and 50,000 acres of forest land.

Collectively, individuals control 359,450 ownerships for a total of 7,815,050 acres, or 89 percent of the State's privately owned forest acreage. An estimated 12,050 partnerships hold 273,950 acres, or 3 percent of the land area. Corporations control 389,900 acres, or 4 percent of the acreage. The remaining 319,500 acres is held by clubs, associations, or trusts.

We found that 22 percent of the owners hold woodland as part of an active farm (table 9, fig. 6). The 83,150 farm ownerships contain 1,875,950 woodland acres, or 21 percent of the State's total commercial forest land. Ninety-three percent of farm ownerships are held by individuals. The remaining 6,922,450 nonfarm acres is held in 301,550 miscellaneous private ownerships. Of these, 93 percent are also individually owned.

NATURE OF BUSINESS

We found there are 19,850 nonfarm units with 808,800 forested acres held by other than individuals (tables 10 and 11). We asked these partnerships, corporations, clubs, associations, or trusts to tell us about the nature of their organization. Real estate firms or those holding forest land for speculation account for 93 percent of the 8,950 nonfarm partnerships. Of the 1,500 nonfarm corporations, two-thirds are oriented toward sports-recreation, personal recreation, recreation development, or youth groups. Clubs and associations range from formally organized, dues-paying memberships to informal groups who gather occasionally to hunt, fish, or for other personal recreation. Ninety-three percent are

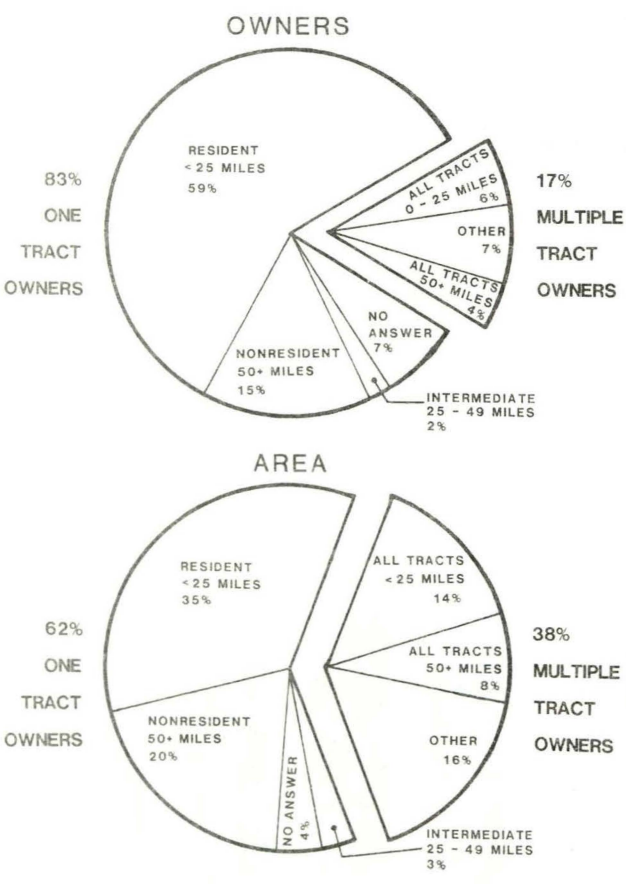

Figure 5.—*Distribution of ownership units by distance from residence and number of tracts owned.*

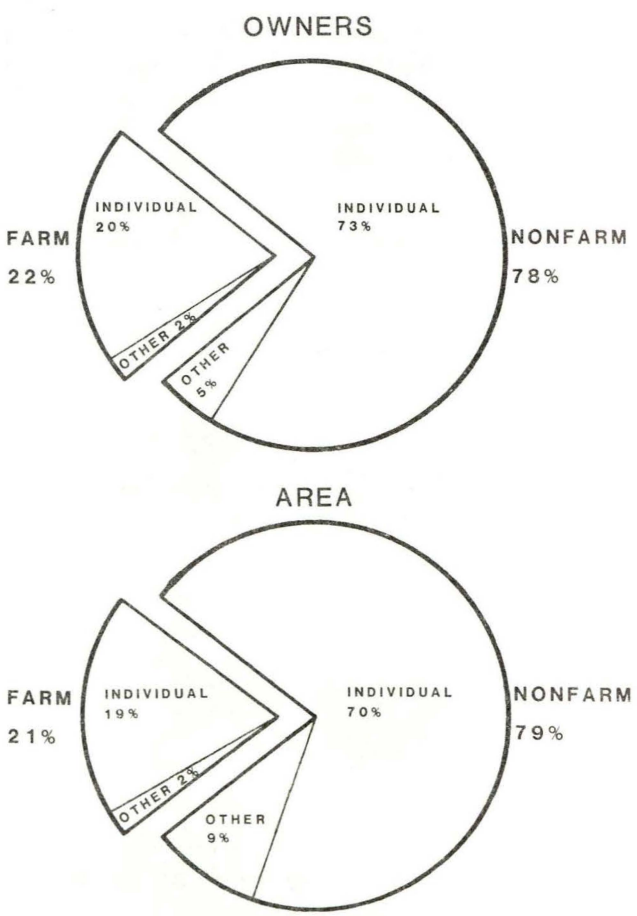

Figure 6.—*Distribution of farm and nonfarm ownership units by form of ownership.*

classed specifically as sports-recreation in nature. Most of the rest are likely to be recreation-oriented also, as are the estimated 50 trusts.

Thus, most business and group ownership units have recreation as an important endeavor, whether formally or informally organized, except for those involved in real estate, land speculation, or farming (fig. 7). It follows that individually held farm and nonfarm ownerships hold the most opportunity for more intensive forest management.

OWNER CHARACTERISTICS

Individual and joint owners were asked to provide information on their occupation, age, education, income, and early-life environment. Other studies have used these variables to predict owner response and attitudes towards tree planting, harvesting, improvement cutting, and general forest management practices. These variables also may give insight into the ability of owners to practice more intensive forest management.

Figure 8 and table 12 show the distribution of owners and area by occupation. Retired persons own larger than average properties (28 acres). They make up 20 percent of the owners and contribute 27 percent of the area. Farmers, who make up only 5 percent of the individual owners, own 8 percent of the area. They hold 591,750 acres or about 36 acres each. We estimate that 65 percent of the forested acreage on active farms is controlled by part-time farmers or owners who may not actively work on the farm (table 13). One-fifth of the farm owners are retired.

Owner profiles provide a general description of who owns Michigan's individually held private forest land (tables 14-17, fig. 9). Sixty-five percent are 45 years or older, including slightly over one-fifth who are 65 years or older, and these owners control 75 percent of the forest land. Fifty percent are educated beyond high school, and 12 percent did not have formal training beyond the eighth grade. Eighteen percent of the owners earn $30,000 or more, and they hold 29 percent of the forest land. The average size of holding for this class is 36 acres, twice as large as that for the other income classes combined. Thirty-one percent of the individual owners have an annual income of less than $15,000. Eighteen percent did not answer the question. One-third of the owners spent the first 12 years of their lives in a city of 10,000 population or larger. A rural area or farm provided the early-life environment for 45 percent of the owners, and they own 49 percent of the individually owned forest acres.

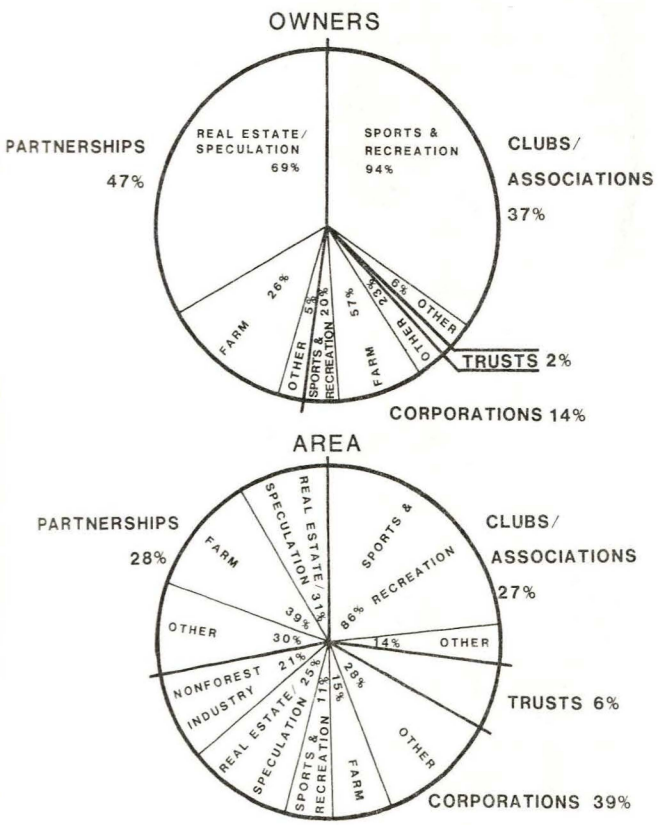

Figure 7.—*Distribution of business and group ownership units by form of ownership and nature of business.*

OWNER OBJECTIVES AND ATTITUDES

Reasons for Owning Forest Land

We asked owners to tell us why they own forest land, what benefits they have received from woodland ownership in recent years, and what benefits

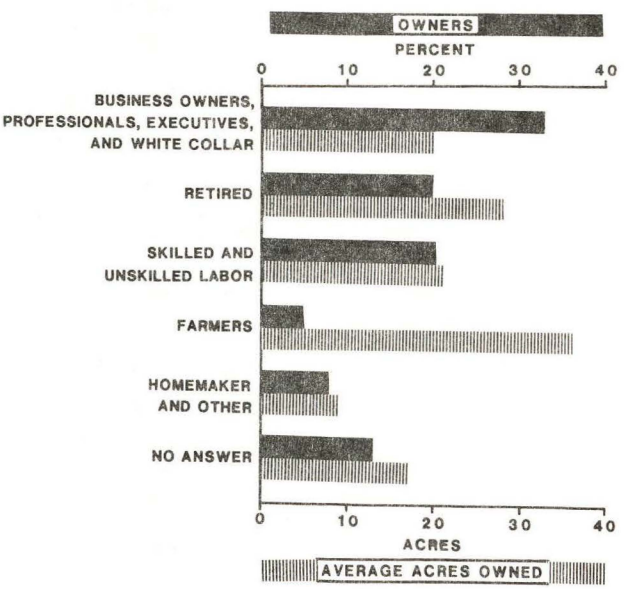

Figure 8.—*Distribution of individual owners and average area owned by owner occupation.*

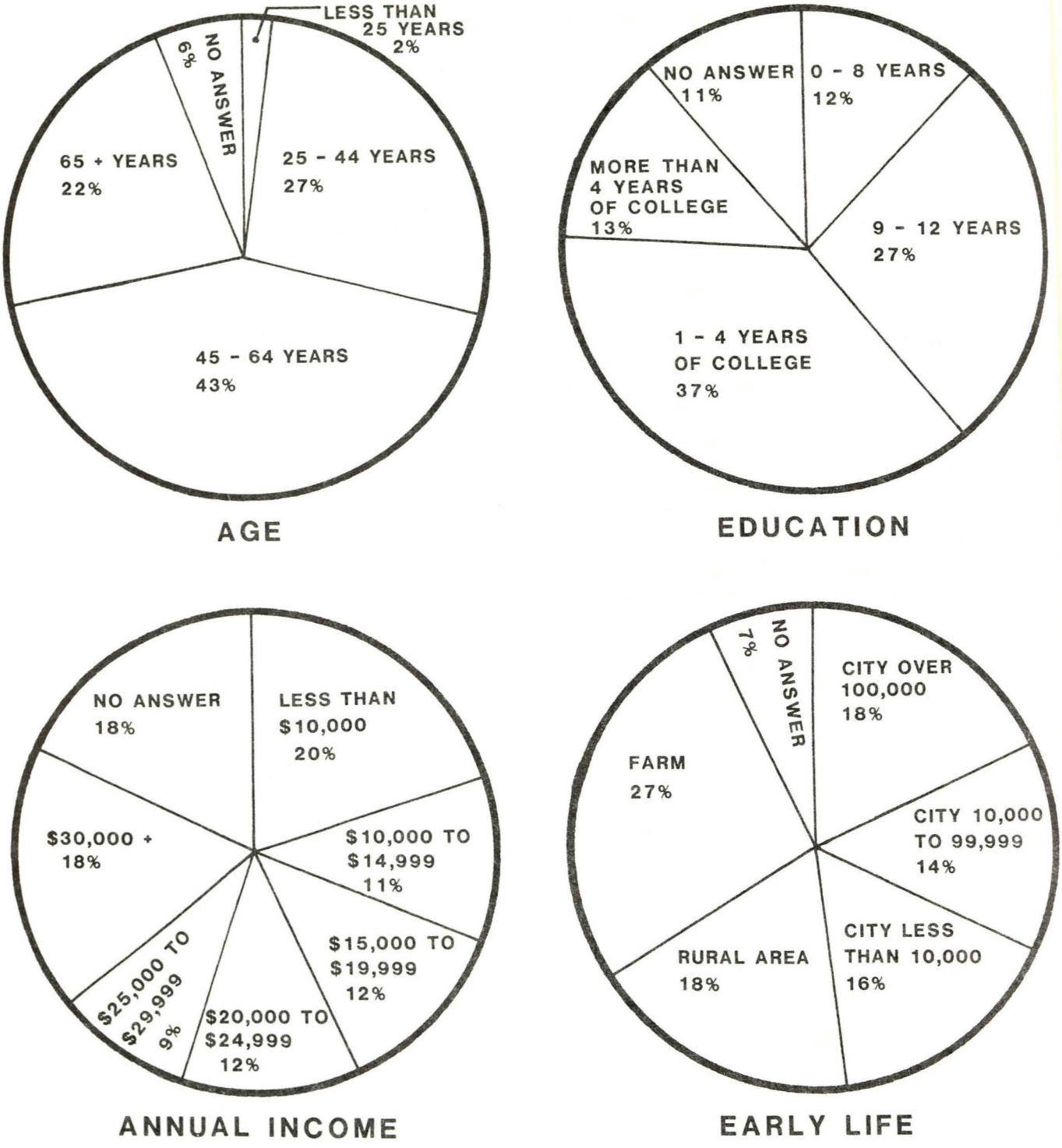

Figure 9.—Distribution of number of owners by owner characteristics.

they expect to receive in the near future. Not surprisingly, several different reasons surface as important, but very few owners rank timber production high (table 18). Only 3 percent of the owners, who own 13 percent of the commercial forest land, rank timber production as their first or second reason for owning woodland. Utilitarian reasons (part of farm or residence, home use), amenities (recreation, second home, esthetic enjoyment), and as an investment are the major reasons cited for woodland ownership by Michigan owners.

Even for major harvesters, timber production does not rank high as a primary reason for owning forest

land (table 19). Forty percent of them rank either part of farm, part of residence, or own use of products as the most important reason for owning, while 22 percent cite recreation uses; 30 percent thought land as an investment was most important. For minor and nonharvesters, 29 percent of the owners with 42 percent of the land rank recreation, esthetics, or cabin land as the primary reason they own forest land (minor harvesters were defined as owners who said they had cut less than 20 cords of firewood or small amounts of other products for their own use). But 48 percent of these owners with 29 percent of the area cite more utilitarian objectives (part of the farm or residence, home use) as the reasons for ownership. For owners who plan to harvest in the near future, investment and farm or domestic use are important ownership objectives (table 20). For those with no harvest plans, the forest is often simply there as part of the residence. In the southern Lower Peninsula, part of residence or part of farm are especially important (table 21). In the northern Lower Peninsula, land investment is cited most frequently as the primary reason for owning; it may be that land values there have appreciated more than in other areas.

Primary Benefit from Owning Forest Land

Recreation use and esthetic enjoyment combined account for a high proportion of the primary benefit owners got from their forest ownership during the last 5 years. Whether the owners have harvested or not doesn't seem to make much difference (table 22). Of those who have conducted major harvests, only 6 percent rank timber income as the primary benefit of ownership, and 25 percent say they receive no special benefit at all. Of course, farm or home use is an important benefit for harvesters compared with nonharvesters; this is especially true for minor harvesters. Increase in land value is seen as less important by minor harvesters than by the other groups.

A ranking of the primary benefit expected during the next 5 years follows a similar pattern (tables 23 and 24). Timber income ranks low while recreation and esthetic enjoyment are important expected benefits. Farm or home use is again expected to be important for firewood cutters. Once again, increase in land value is not as important for minor harvesters as it is for the others. The interest in increased property value may stem from a perception of land ownership as a hedge against the high inflation experienced in the late 1970's.

Harvest History and Why People Harvest

We asked people to tell us about their most recent timber harvest but did not specify a time limit. However, most were conducted within the past 10 years. Most firewood cutting was done within the previous 3 years.

Of the estimated 171,000 owners who harvested some timber, 97 percent are individuals. Twenty-three percent of all owners are major harvesters, and they hold 38 percent of the acreage (table 25). Of this group, 20 percent cite land clearing as a significant reason for harvesting (table 26). These owners hold relatively small forest tracts (9 acres on the average). Another 37 percent cite mature timber or thinning and improvement as an important reason; the average holding for these owners is 59 acres. Reasons for harvesting varied considerably among Survey Units (table 27).

Many studies have shown that farm forests are more likely to be harvested than nonfarm, and our study confirms this finding. Thirty-six percent of the farm ownership units, with 60 percent of the farm forest acreage, have had major timber harvests (table 28). Only 20 percent of the nonfarm units, having 40 percent of the nonfarm acreage, have had major harvests. Also, more farm units have harvested firewood and other products primarily for their own use than have nonfarm units.

Why Owners do not Harvest

Fifty percent of all owners have not harvested timber (table 25). This does not mean timber on these holdings has never been harvested, but simply that there has been no harvest during the tenure of the current owners. Another 21 percent of all owners have harvested only a few cords (usually 20 cords or less) of firewood or a small amount of other products in their most recent harvest. A surprisingly large number of these owners completed the question on reason for not harvesting. Nearly all of these respondents said they cut firewood or other products for their own use or to salvage dead or dying trees, often citing both reasons. Another reason occasionally given was thinning their woodland, again often in combination with cutting for their own use. Apparently these owners did not consider cutting a few cords of firewood or posts as conducting a timber harvest and felt they should tell us why they had not harvested.

The reasons given for not harvesting by 39 percent of the owners (who control 24 percent of the area) dealt with physical aspects of the resource (tables 29 and 30), such as immature timber, too small a volume, too small an area, or poor quality. Thirteen percent gave reasons more temporary in nature: No market, low price, selling land, land in unsettled estate, and saving for retirement, for emergency income, or as a legacy for heirs. These owners hold 20 percent of the nonharvested forest

acreage. Twenty-six percent of the owners, accounting for 30 percent of the acreage, cited reasons that may be of more concern to foresters involved with timber procurement or management: Ruin the scenery (13 percent); destroy hunting (6 percent); opposed to harvest, distrust loggers, and fire hazard (5 percent). The remaining 20 percent gave a variety of other reasons or did not answer the question.

Harvest Plans

There is, perhaps, no more opportune time to influence forest management than when an owner harvests timber, whether a major cut is made or only a few cords of firewood are removed (since the latter often occurs annually). When we asked owners to tell us about their harvest plans, we found that slightly more than half indicated an interest in harvesting at some time in the future (table 31). The results showed that most of the 600,000 acres of farmer-owned forests may eventually be cut, and that many of these owners plan to harvest within the next 10 years. Forty-five percent of the professionals never plan to harvest timber; yet, professionals with positive or indefinite harvest plans control 762,000 acres—81 percent of the forest acreage in this occupation category. Thus, as a group they offer more harvest potential than farmers. Executives and skilled trade occupations similarly offer considerable potential. So do individuals who are retired (although retired owners who never plan to harvest hold 538,000 acres). The proportion of owners intending to harvest increases as the forest acres owned increases (table 32, fig. 10). In the 1-49 acre ownership size class, only 46 percent of the owners intend to harvest; this increases to 88 percent for the 500/A acre size class. In any event, ownership of only a few acres of forest land apparently does not prevent some owners from considering a harvest.

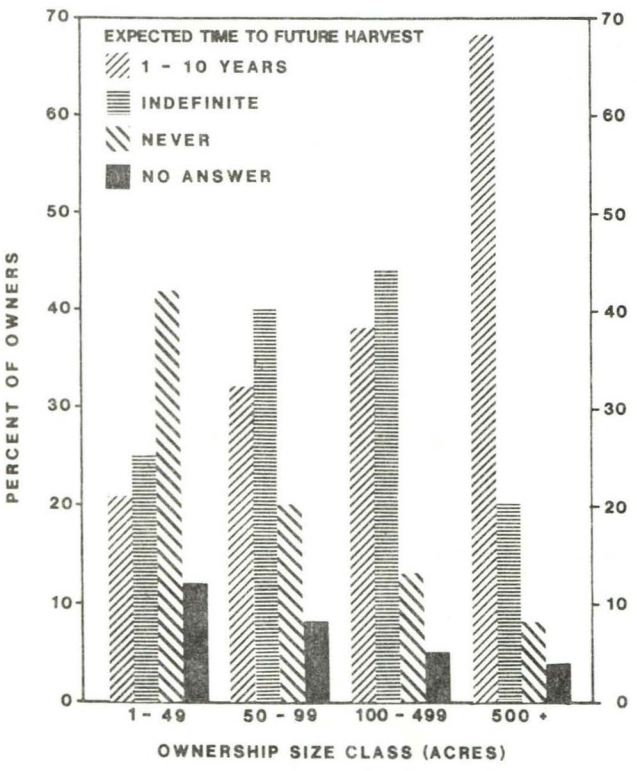

Figure 10.—*Distribution of owners by size of ownership and intention to harvest.*

Harvesting Practices

Over half of the owners who harvested timber products selected the area or trees to be cut themselves (table 33, fig. 11). Only about one in ten harvesters had assistance from a forester in selecting timber to be cut, and one in four left it up to the buyer or had assistance from the buyer in determining what to cut.

Selection cutting, where only preselected, marked trees are removed, was used by about 38 percent of the harvesters. When foresters were included, selection was used over 65 percent of the time and diameter limit, where only trees above a certain diameter are cut, 25 percent of the time. Forty percent of the landowners used the selection method, and 21 percent used diameter limit. Buyers acting alone used diameter limit 35 percent of the time and selection cutting 23 percent.

Clearcutting was used by 4,150 owners (5 percent), on properties averaging 103 acres in size. Ownership units for which foresters used clearcutting averaged 343 acres. Very few owners reported using a combination of methods, and 19 percent did not know what method was used or did not answer the question.

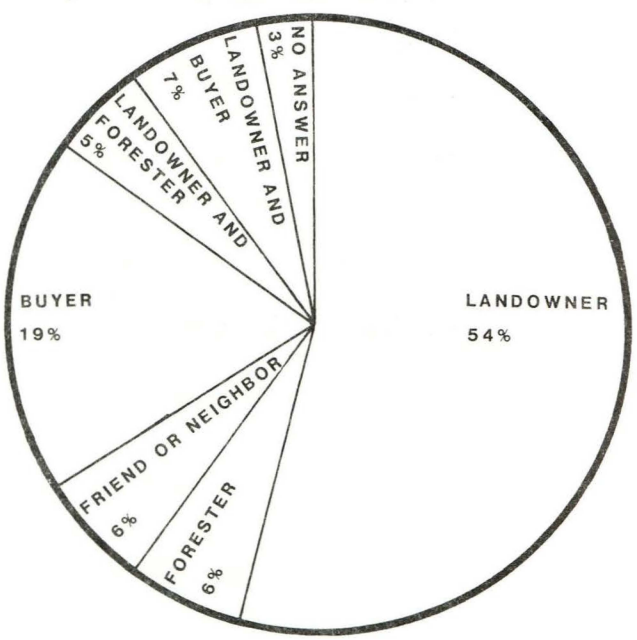

Figure 11.—*Distribution of harvesters by person selecting trees to be cut.*

Products Harvested

Farmers and miscellaneous private landowners are estimated to provide 70 percent of the annual removals of hardwood growing stock and 76 percent of the annual removals of hardwood sawtimber in Michigan (Raile and Smith 1983). In addition, they provide over 50 percent of softwood removals. Fuelwood harvest has increased greatly in recent years as individuals have begun burning wood to supplement or replace fossil fuels in home heating; firewood is the product cut by most major harvesters (47 percent), followed by saw logs (43 percent) and pulpwood (21 percent) (table 34, fig. 12). Only pulpwood cutting shows much sensitivity to size class of property—the proportion of owners harvesting pulpwood increases as acres owned increases. In addition to firewood, small ownerships have a surprisingly high saw log harvest.

Thirty-four percent of the major harvesters (who account for 57 percent of the land in this category) cut more than one product. Ninety-five percent of the minor harvesters cut firewood, and very few cut any other products. A small number cut posts (4 percent), Christmas trees (4 percent), and saw logs (3 percent).

We estimate that 118,850, or about 31 percent of all owners, cut firewood in their most recent harvest. Of course, many of them probably harvest firewood annually.

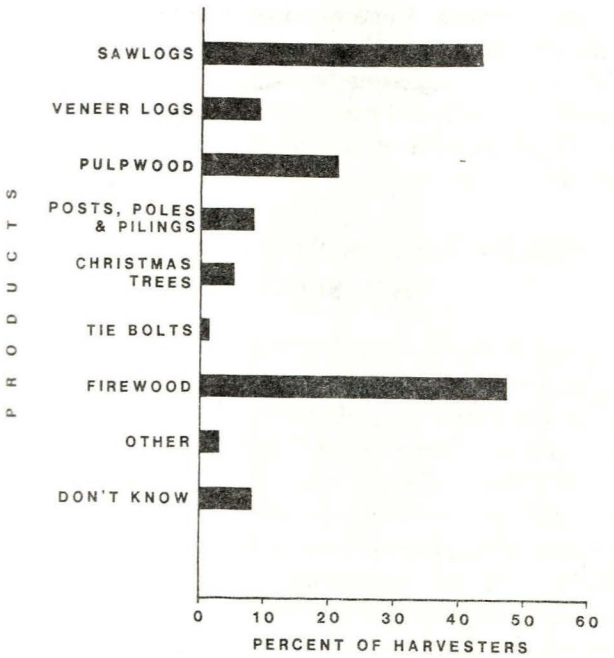

Figure 12.—*Distribution of major harvesters by products harvested.*

Improvement Cut

We asked owners if they would be interested in an improvement cut or whole-tree thinning, where only selected trees are removed to improve growth and timber quality and to provide a healthier forest and better wildlife habitat. We indicated whole-tree skidding would remove the entire tree, including top and limbs, leaving a slash-free area after harvest. Thirty-nine percent of the owners holding 63 percent of the area said they would be interested; relative to their proportion in the population, nonresident owners are more amenable to this type of cutting than residents (table 35).

Size class of ownership influenced the response to whole-tree thinning—a greater proportion of the larger landowners indicated an interest, as they did for harvesting in general. For example, only about one-third of the landowners with less than 50 acres were interested, while 84 percent of those holding 500 acres or more were interested. However, the former account for 1.9 million acres, while the latter account for only 912,800 acres.

Widespread whole-tree improvement thinning could have a substantial impact on timber availability. Forty percent of the owners (who hold 21 percent of the commercial forest land) said they never intend to harvest their timber. Yet, 31 percent of these owners (817,000 acres) indicated an interest in whole-tree improvement thinning (table 36).

Relative to their proportion of the population, we find that those in skilled trades, professionals, and especially those earning $30,000 or more are slightly more interested in improvement cutting than other groups (table 37).

FORESTRY ASSISTANCE

We analyzed our data with the objective of determining who has had assistance in timber harvesting and forest management practices. This analysis identifies, by property and owner characteristics, those who responded positively to an open-ended question about management assistance or whether a forester assisted in conducting a timber harvest. The information should aid in increasing the efficiency of assistance and incentive programs to encourage forest management intensification on nonindustrial private holdings.

We found that, over an unidentified timespan, 10 percent of the owners holding 28 percent of the forest land had requested forestry assistance (table 38). More than 39,000 ownership units totaling 2,475,500 acres were involved.

Three-quarters of those who have requested assistance own less than 50 acres of forest land, but 48

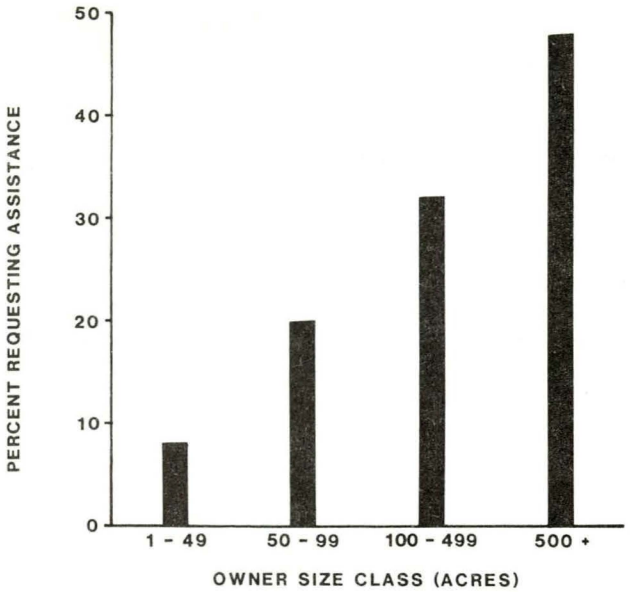

Figure 13.—*Percent of owners requesting forestry assistance by owner size class.*

percent of the owners who hold 500 acres or more have requested assistance (table 39, fig. 13). While a significant portion of owners requesting assistance own small-sized holdings, only 8 percent of all owners of small-sized tracts have done so; on the average, it is the larger ownership units within this smaller size class that have requested assistance.

Seventy-seven percent of the owners who have sought assistance live less than 25 miles from their nearest timber tract; 15 percent live more than 50 miles away; and 3 percent live 25-50 miles away (table 40). Five percent did not answer the question. Sixty-three percent of the acreage in assisted ownership units is held by owners located less than 25 miles from their nearest tract of timber, while 28 percent is held by owners who live 50 miles or more away. These proportions are not much different than for all owners. Nonresident owners holding more than 100 acres account for a significant portion (23 percent) of the acres in ownerships receiving assistance.

Major timber harvesters were more than twice as likely as nonharvesters to have had forestry assistance (table 41). Some of this is because the nature of assistance involved timber sale evaluation. Yet, it is of some concern to foresters that a large number of owners involved in harvesting timber apparently do not have any professional help in carrying out the harvest.

The most commonly requested type of assistance—general forest management—ranked highest for all size classes of properties and increased in importance slightly as property size increased (table 42). This assistance usually involves development of a management plan or situations where several types of forestry assistance are requested. It is not surprising that owners of larger holdings had slightly more diversification in their requests. Assistance in timber sales or in valuation of timber was also popular with owners of all property size classes. Timber stand improvement was important in the medium-sized properties, and tree planting was quite popular with smaller forest holdings. Insect and disease control and boundary surveying accounted for an extremely small portion of requests, and were included in general forest management. The distribution of acreage by nature of assistance and size of ownership closely patterns that for owners.

Are there differences in type of forestry assistance requested by distance from the nearest tract? More than 40 percent of the nonresidents (50/A miles away) were assisted in planting trees, but they control only 9 percent of the acreage held by assisted, nonresident owners (table 43). Twenty-two percent of the nonresident owners requested general management assistance, and they hold 43 percent of the acreage. Resident owners (less than 25 miles away) did not request tree planting assistance nearly as much; general management and sales valuation assistance were popular with these owners. It seems that a significant assistance effort is focused on tree planting on properties with relatively small forested acreage.

In summary, we found that three-quarters of the assisted owners live within 25 miles of their forest, and they control 63 percent of the acreage held by assisted owners. General forest management and sales and valuation assistance account for over half of the kind of help requested. About 15 percent of the assisted owners are nonresidents, and they control nearly 30 percent of the acreage held by assisted owners.

Which Owners Request Forestry Assistance?

When the proportions for number of assisted owners and acres owned are analyzed by kind of assistance and owner characteristics the results are similar to those reported by Webster and Stoltenberg (1959). The variables age, occupation, education, and income are highly correlated in various ways. For example, professionals and executives are also likely to be college graduates and to have higher average incomes. The tables show the proportions of owners by kind of assistance requested as distributed over the entire population of assisted owners and (in parentheses) the distribution within a specific class or column (tables 44 to 47). Retired people (hence, also the older age class group) have a

high proportion of forestry activity relative to their proportion in the overall population. Because no time limit was placed on the reporting of assistance, some could have been carried out prior to retirement. Planting and sales and valuation assistance were important activities for these owners. General management assistance stands out for professional people, executives, and white collar workers, as well as the $30,000 and over income group.

There is an interesting contrast between the proportions of professional owners and executive owners assisted (table 45). Relative to their proportions in the overall population, professionals are much more active than executives (17 percent to 7 percent). Possibly executives are more aware of alternative investment opportunities that promise higher returns on investment and thus choose not to practice more intensive forest management; or perhaps they simply are less well informed about the availability of forestry assistance. On an acres-owned basis, there is not much difference between the two classes. Thus, executives with larger properties are more responsive.

Younger owners take more advantage of a variety of assistance activities (general management) than the 65 and over group. Early forestry extension work may have emphasized tree planting, while in more recent times increased emphasis has been placed on management planning and forest improvement work. Better markets for low quality timber also may have increased the opportunity for doing improvement work.

Agencies to Contact

When asked what agency, office, or individual they would contact if they wanted forestry information or assistance, 49 percent of the owners said they didn't know where to get help (table 48). This group controls 44 percent of the commercial forest land in Michigan. Another 29 percent, holding 17 percent of the land, didn't answer the question, leaving an anemic 22 percent of the owners with 39 percent of the land that know who to go to for help. And, as usual, owners of larger holdings are more knowledgeable. The State Forestry Department is most often cited as the agency to contact for assistance. Not surprisingly, most who had been assisted remembered who helped them (table 49).

RECREATION

Recreation, second home, or esthetic enjoyment is the primary reason for owning forest land for an estimated 27 percent of the owners and the second most important reason for 30 percent (double counting was possible). Seventy-seven percent of the private forest landowners holding 88 percent of the forest land have some recreational use of their land by themselves, their family, close friends, or the general public (table 50). Only 10 percent of the owners holding 5 percent of the forest land did not participate in or permit recreational use. In most cases, owners reserve the recreational opportunity for themselves, their family, or close friends.

Seventy-four percent of the owners with 84 percent of the land personally use their forest for recreation or have family or close friends that do (table 51). Hunting stands out as the most important use, followed by hiking or skiing, berry picking, and snowmobiling or trail biking. Of course, multiple uses are common.

Public use is allowed by only 17 percent of the owners with 2,347,850 forested acres (table 52). Hunting (11 percent), and the hiking/skiing and snowmobiling/trail biking combinations (8 percent each), are the uses most commonly permitted. An estimated 47 percent of the owners holding 47 percent of the acres do not permit public use, but an additional 36 percent of the owners with 27 percent of the acres did not indicate whether public use is permitted or not.

A slightly higher proportion of the forest acreage is available for public use in the Upper Peninsula, but the total amount available is largest in the northern Lower Peninsula (table 53). Hunting use by the public is allowed on a higher proportion of ownerships in the Upper Peninsula. Public use is most restricted on the smaller ownership units, but size of ownership does not appear to have a marked effect on availability for a variety of recreation purposes (table 54).

In addition to asking owners to identify the kinds of public recreation permitted on their forest land, we asked if the land was posted. We found that most owners do not post their land (58 percent). A slightly higher proportion of the properties and a significantly higher proportion of the acreage is posted in the northern Lower Peninsula—51,450 ownerships, or 2.3 million acres (table 55). Posting is proportionately less common on Upper Peninsula properties, but by far the most unposted properties are in the southern Lower Peninsula (104,300).

Only slightly more than one-third of the properties are posted where owners say public use is not permitted (table 56). In addition, an estimated 31,500 properties are posted whose owners did not tell us whether public use is permitted or not. Control of access is the most important reason for posting, especially for properties where public use is not

permitted. However, many owners may post only a portion of their holdings or may feel it is futile to post at all. Many respondents noted that it is nearly impossible to prevent unwanted public use.

Hunting is an important use on 47 percent of the properties that account for 68 percent of the forest acres (table 57). About 80 percent of the owners who hunt reserve the privilege for themselves, family, or close friends. Very few who do not hunt allow the general public to do so.

LITERATURE CITED

Birch, Thomas W. The forest landowners of Ohio—1979. Resour. Bull. NE-74. Broomall, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station; 1982. 84 p.

Carpenter, Eugene M. Ownership change and timber supply on nonindustrial private forest land. Res. Pap. NC-265. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station; 1985. (In prep.)

Hahn, Jerold T. Timber resource of Michigan's southern Lower Peninsula, 1980. Resour. Bull. NC-66. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station; 1982. 119 p.

Jakes, Pamela J. Timber resource of Michigan's northern Lower Peninsula, 1980. Resour. Bull. NC-62. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station; 1982. 120 p.

Raile, Gerhard K.; Smith, W. Brad. Michigan forest statistics, 1980. Resour. Bull. NC-67. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station; 1983. 101 p.

Smith, W. Brad. Timber resource of Michigan's eastern Upper Peninsula, 1980. Resour. Bull. NC-64. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station; 1982. 103 p.

Spencer, John S., Jr. Timber resource of Michigan's western Upper Peninsula, 1980. Resour. Bull. NC-60. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station; 1982. 102 p.

Webster, H. H.; Stoltenberg, C. H. What ownership characteristics are useful in predicting response to forestry programs? Land Econ. 35(3): 292-295; 1959.

APPENDIX

STUDY METHOD

In this study, all nonindustrial individual, commercial, and business ownerships of 10,000 acres or more of commercial forest land were identified and excluded. Also excluded were forest industry and public lands. These owners generally have well understood policies and objectives toward forest management and timber harvesting. The total acreage of commercial forest land in private ownerships was obtained from the Michigan forest survey. The commercial forest base for nonindustrial private forest landowners in each Survey Unit is shown below:

Unit	All private ownerships	Large private ownerships		Small private ownerships
	(Acres)	(No.)	(Acres)	(Acres)
Eastern UP	1,412,600	9	144,000	1,268,600
Western UP	1,706,800	12	255,800	1,451,000
Northern LP	3,881,600	3	43,900	3,837,700
Southern LP	2,241,100	0	--	2,241,100
Total	9,242,100	24	443,700	8,798,400

The sampling scheme used here was derived from the sampling design used in the forest survey by the North Central Forest Experiment Station. Field crews obtained the name and mailing address of the owner of each of the 3,450 forested field plots in the State. These plots are systematically distributed within each of the four Survey Units.

The exclusion of large landowners reduced the number of nonindustrial private landowner plots to 3,282. From these plots, 2,045 plots were randomly selected and the owners contacted for information. Through multiple mailings, 1,214 usable questionnaires were returned, for a response rate of 59 percent.

The probability that a forest landowner would be sampled depended on the rate of sampling and the acreage of commercial forest land owned. Each Unit in Michigan had a different rate of sampling. To calculate the area represented by each plot, the area of commercial forest land owned by small, nonindustrial owners in each Unit was divided by the number of field plots represented by valid questionnaires.

Four sampling Units were involved in the study:

Unit	Usable questionnaires	Usable survey plots	Average acreage per plot
	---- *(Number)* -----		
Eastern UP	293	304	4,173
Western UP	317	331	4,384
Northern LP	327	334	11,490
Southern LP	277	280	8,004
All Units	1,214	1,249	7,044

Since the sampling scheme is area-based, there was a low probability of inclusion for owners of small parcels of forest land. To estimate the total number of ownership units in Michigan it was necessary to weight the number of ownership units obtained in the sample. This procedure can be stated as:

$$N = \frac{CFL_p}{N_r} \Sigma \frac{1}{A_i}, \text{ where}$$

N = estimated number of private ownership units in the sampling stratum,
CFL_p = the acres of commercial forest land in the sampling stratum,
N_r = the number of respondents in the sampling stratum, and
A_i = acres owned by the individual respondent.

The ΣN then equals the estimated number of small private owners in the State. This is an unbiased estimate of the total number of persons who own commercial forest land in Michigan.

A questionnaire[1] was developed from ownership studies done in the northeastern States and revised to accommodate unique Michigan data requirements (Birch 1982). A cover letter explaining the purpose of the study and a questionnaire were mailed to each owner; those who had not responded

[1]*Copies of questionnaire are available from: Publications, North Central Forest Experiment Station, 1992 Folwell Avenue, St. Paul, MN 55108.*

in approximately 2 weeks received a reminder postcard. About 10 days later a second letter and questionnaire were mailed to nonrespondents, again followed in 2 weeks by a final reminder card.

Owners having more than one survey plot on their land were sent only one questionnaire; their responses were weighted proportionately to the number of plots on their land.

SAMPLING ERRORS

A measure of the reliability of the data in this report is given by the sampling error associated with an estimate. Sampling errors were calculated for the important categories and are shown in the individual tables. The sampling errors for acres of commercial forest land in private ownership were calculated as part of the forest survey.

The sampling errors (in percent) are:

Unit	Estimates of acres of private commercial forest land	Estimates of number of owners of private commercial forest land	Estimates of number of owners holding 10 or more acres
Eastern UP	0.85	8.8	6.7
Western UP	.87	16.8	6.6
Northern LP	.80	14.0	6.5
Southern LP	1.66	10.9	5.9
All Units	0.68	9.0	3.9

The smaller the sampling error, the greater the reliability of the estimate. If an estimate has a sampling error of 15 percent, the chances are two out of three that the true value will fall within the range represented by 85 and 115 percent of the survey value. As shown in the tabulation, when small forest ownership units are included in the study population, the sampling error for the estimated number of owners increases substantially.

DEFINITION OF TERMS

Clearcutting.—The method of regenerating timber in which the area is cut clear in the literal sense of the word; virtually all the trees, large and small, are removed. The term is often erroneously applied to any type of cutting in which all the merchantable timber is removed.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization. (Note: Areas qualifying as commercial forest land have the capability of producing in excess of 20 cubic feet per acre per year of annual growth under management. Currently inaccessible and inoperable areas are included, except when the areas involved are small and unlikely to become suitable for production of industrial wood in the foreseeable future.)

Diameter limit.—The method of regenerating timber in which all trees above a specific diameter are removed.

Farm.—An ownership unit which the respondent designated as an active farm.

Forest industries.—Companies or individuals operating wood-using plants.

Forest land.—Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use. (Note: Stocking is measured by comparison of basal area and/or number of trees, by age or size and spacing with specified standards.) The minimum area for classification of forest land is 1 acre. Roadside, streamside, and shelter-belt strips of timber must have a crown width of at least 120 feet to qualify as forest land. Unimproved roads and trails, streams, or other bodies of water or clearings in forest areas shall be classed as forest if less than 120 feet wide.

Major harvest.—The cutting in the most recent harvest of 20 cords or more of firewood or 3,000 board feet of sawlogs, or large amounts of posts, poles, or Christmas trees primarily for sale to others.

Minor harvest.—The cutting in the most recent harvest of less than 20 cords of firewood or 3,000 board feet of sawlogs, or small amounts of posts, poles, or Christmas trees primarily for own use.

Miscellaneous private land.—Privately owned land other than forest industry and farmer-owned land.

Ownership size class.—The amount of commercial forest land owned by one owner, regardless of the number of tracts or parcels.

Ownership unit.—Forested property owned by one owner regardless of the number of tracts or parcels involved; the amount of forest land declared by the respondent to be owned by the person, estate, partnership, corporation, club, or association to whom the questionnaire was addressed.

Owner tenure.—The length of time a property has been held by the owner.

Posted land.—Ownerships displaying signs indicating public trespass or admittance not allowed.

Private commercial forest land.—All commercial forest land other than that owned by Federal, State, or local governments or their agencies.

Pulpwood.—Any log from which woodpulp is to be made; usually measured in bolts of 4, 5, or 8 feet, and somewhat smaller in diameter than saw logs or veneer logs.

Sawtimber trees.—Live trees of commercial species that are (a) at least 9 inches in d.b.h. for softwoods or 11 inches for hardwoods, and (b) that contain at least one 12-foot or two noncontiguous 8-foot merchantable saw logs, and that meet regional specifications for freedom from defect.

Selection system.—The method of regenerating timber in which trees of all sizes are harvested. However, in practice, frequently only the oldest or largest trees in a stand are harvested. Trees are taken singly or in small groups, but the entire stand is never cleared completely in a single operation.

Timber removals.—The volume of growing-stock or sawtimber trees harvested or killed in logging or in cultural operations such as timber stand improvement, land clearing, or by changes in land use.

Timber salvage.—Removals of down, damaged, or diseased trees.

Veneer log.—Any log from which veneer is to be made, by peeling (rotary cutting) or slicing.

Table 1.--Estimated number of private ownership units and acres of commercial forest land owned by size class and forest survey unit, Michigan, 1981

Size class of ownership (acres)	Eastern UP		Western UP		Northern LP		Southern LP		Total		Sampling error
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Percent
					OWNERS						
1-9	3,300	17	12,350	38	73,450	50	118,150	64	207,250	54	14
10-29	4,400	22	6,450	20	41,950	28	47,550	26	100,350	26	7
30-49	5,550	28	6,250	19	15,200	10	11,700	6	38,700	10	6
50-69	1,300	6	2,000	6	5,200	4	2,750	2	11,250	3	10
70-99	1,900	9	2,700	8	4,800	3	2,000	1	11,400	3	8
100-199	2,250	11	2,050	2	5,500	4	1,250	1	11,050	3	6
200-499	950	5	700	2	1,300	1	500	**	3,450	1	8
500-999	150	1	200	1	400	**	*	**	750	**	12
1000-4999	250	1	50	**	150	**	50	**	500	**	14
5000-9999	--	--	*	**	*	**	--	--	*	**	45
Total	20,050	100	32,750	100	147,950	100	183,950	100	384,700	100	7
					ACRES OWNED						
1-9	20,850	2	35,100	2	206,800	5	400,200	18	662,950	8	11
10-29	79,300	6	105,200	7	689,400	18	728,350	32	1,602,250	18	7
30-49	208,650	16	236,750	16	574,500	15	424,200	19	1,444,100	16	6
50-69	70,950	5	109,600	8	298,750	8	160,100	7	639,400	7	10
70-99	150,200	12	214,800	15	390,700	10	160,100	7	915,800	10	8
100-199	287,950	23	280,500	19	712,400	19	160,100	7	1,440,950	16	6
200-499	267,100	21	223,550	15	390,650	10	136,050	6	1,017,350	12	7
500-999	83,450	7	127,150	9	241,300	6	24,000	1	475,900	5	12
1000-4999	100,150	8	105,200	7	287,250	7	48,000	2	540,600	6	13
5000-9999	--	--	13,150	1	45,950	1	--	--	59,100	1	45
Total	1,268,600	100	1,451,000	100	3,837,700	100	2,241,100	100	8,798,400	100	.68

* Fewer than 25 owners

** Less than 0.5 percent

Table 2.--Estimated number of private ownership units and acres of commercial forest land owned by number of tracts and forest survey unit, Michigan, 1981

Number of tracts	Eastern UP		Western UP		Northern LP		Southern LP		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
1	13,600	68	24,050	73	126,050	85	145,400	79	309,100	80
2	4,100	20	5,100	16	17,350	12	22,000	12	48,550	13
3 or more	2,050	10	1,700	5	3,600	2	4,550	2	11,900	3
No answer	300	2	1,900	6	950	1	12,000	7	15,150	4
Total	20,050	100	32,750	100	147,950	100	183,950	100	384,700	100
					ACRES OWNED					
1	667,700	53	775,900	53	539,300	66	376,700	61	5,359,600	61
2	300,450	24	267,400	18	689,400	13	480,250	21	1,737,500	20
3 or more	279,600	22	359,450	25	540,050	14	352,150	16	1,531,250	17
No answer	20,850	1	48,250	3	68,950	2	32,000	1	170,050	2
Total	1,268,600	100	1,451,000	100	3,837,700	100	2,241,100	100	8,798,400	100

Table 3.--Estimated number of private ownership units and acres of commercial forest land owned by distance from residence to nearest forest tract and size class of ownership, Michigan, 1981

Distance from residence (miles)	Size class of ownership (acres)									
	1-49 acres		50-99 acres		100-499 acres		500+ acres		All classes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
0-24	238,700	69	13,750	61	8,800	61	700	56	261,950	68
25-49	5,600	1	1,250	5	600	4	50	4	7,500	2
50+	58,300	17	6,350	28	4,700	32	450	36	69,800	18
No answer	43,700	13	1,300	6	400	3	50	4	45,450	12
Total	346,300	100	22,650	100	14,500	100	1,250	100	384,700	100
					ACRES OWNED					
0-24	2,496,000	67	930,900	60	1,427,650	58	517,350	48	5,371,900	61
25-49	104,800	3	87,300	5	107,450	4	33,400	3	332,950	4
50+	771,300	21	444,000	29	840,300	35	464,700	44	2,520,300	29
No answer	337,200	9	93,000	6	82,900	3	60,150	5	573,250	6
Total	3,709,300	100	1,555,200	100	2,458,300	100	1,075,600	100	8,798,400	100

* Fewer than 25 owners

** Less than 0.5 percent

Table 4.--Estimated number of private ownership units and acres of commercial forest land owned by distance from residence to nearest forest tract and forest survey unit, Michigan, 1981

Distance from residence (miles)	Eastern UP			Western UP			Northern LP			Southern LP			All units		
	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)
							OWNERS								
0-24	12,350	61	14	20,300	62	25	86,750	59	21	142,550	77	13	261,950	68	9
25-49	850	4	53	3,850	12	60	1,400	1	51	1,400	1	38	7,500	2	39
50+	6,050	30	18	5,200	16	17	46,950	32	22	11,600	6	40	69,800	18	13
No answer	800	4	41	3,400	10	39	12,850	8	50	28,400	15	42	45,450	12	29
Total	20,050	100	10	32,750	100	18	147,950	100	15	183,950	100	12	384,700	100	7
							ACRES OWNED								
0-24	721,950	57	7	837,250	58	7	1,987,800	52	7	1,824,900	81	6	5,371,900	61	2
25-49	41,700	3	32	122,750	8	20	80,450	2	38	88,050	4	30	332,950	4	13
50+	450,700	36	10	403,300	28	10	1,482,200	39	8	184,100	8	21	2,520,300	29	5
No answer	54,250	4	28	87,700	6	22	287,250	100	21	144,050	6	23	573,250	6	11
Total	1,268,600	100	.82	1,451,000	100	.87	3,837,700	100	.50	2,241,100	100	1.63	8,798,400	100	.68

Table 5.--Estimated number of private ownership units and acres of commercial forest land owned by distance from residence and number of tracts, Michigan, 1981

Distance from residence (miles)	Owners of one tract		Owners of more than one tract			
			Distance to: Nearest tract		Distance to: Farthest tract	
	Number	Percent	Number	Percent	Number	Percent
			OWNERS			
0-24	219,550	71	41,750	69	21,750	36
25-49	6,400	2	1,000	2	2,600	4
50+	55,800	18	13,950	23	18,950	31
No answer	27,350	9	3,750	6	17,150	29
Total	309,100	100	60,450	100	60,450	100
			ACRES OWNED			
0-24	3,036,600	57	2,313,800	71	1,194,550	36
25-49	222,350	4	106,200	3	225,700	7
50+	1,757,850	33	713,600	22	1,182,750	36
No answer	342,800	6	135,150	4	665,750	21
Total	5,359,600	100	3,268,750	100	3,268,750	100

Table 6.--Estimated number of private ownership units with more than one tract and acres of commercial forest land owned by distance to farthest tract and forest survey unit, Michigan, 1981

Distance fartherst tract (miles)	Eastern UP		Western UP		Northern LP		Southern LP		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
0-24	1,650	27	2,150	32	4,700	22	13,250	50	21,750	36
25-49	1,050	17	400	6	800	4	350	1	2,600	4
50+	1,850	30	2,850	42	11,400	55	2,850	11	18,950	31
No answer	1,600	26	1,400	20	4,050	19	10,100	38	17,150	29
Total	6,150	100	6,800	100	20,950	100	26,550	100	60,450	100
					ACRES OWNED					
0-24	171,100	29	223,550	36	367,700	30	432,200	52	1,194,550	36
25-49	62,600	11	70,150	11	68,950	6	24,000	3	225,700	7
50+	221,150	38	245,500	39	540,000	44	176,100	21	1,182,750	36
No answer	125,200	22	87,650	14	252,800	20	200,100	24	665,750	21
Total	580,050	100	626,850	100	1,229,450	100	832,400	100	3,268,750	100

Table 7.--Estimated number of private ownership units and acres of commercial forest land owned by date of acquisition and form of ownership, Michigan, 1981

Year acquired	Individuals		Others		All forms of ownership	
	Number	Percent	Number	Percent	Number	Percent
			OWNERS			
1980-1981	3,400	1	100	**	3,500	1
1970-1979	162,600	45	9,750	39	172,350	45
1960-1969	78,350	22	1,600	7	79,950	21
1950-1959	33,050	9	2,550	10	35,600	9
1940-1949	36,550	10	300	1	36,850	9
Prior to 1940	17,450	5	650	2	18,100	5
No answer	28,050	8	10,300	41	38,350	10
Total	359,450	100	25,250	100	384,700	100
			ACRES OWNED			
1980-1981	85,150	1	39,300	4	124,450	1
1970-1979	2,252,900	29	159,050	16	2,411,950	27
1960-1969	1,866,750	24	195,300	21	2,062,050	24
1950-1959	1,420,950	18	155,250	16	1,576,200	18
1940-1949	1,100,350	14	87,300	9	1,187,650	14
Prior to 1940	756,450	10	244,050	24	1,000,500	11
No answer	332,500	4	103,100	10	435,600	5
Total	7,815,050	100	983,350	100	8,798,400	100

** Less than 0.5 percent

Table 8.--Estimated number of private ownership units and acres of commercial forest land owned by form of ownership and forest survey unit, Michigan, 1981 1/

Form of ownership	Eastern UP		Western UP		Northern LP		Southern LP		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Individual	19,100	95	32,300	98	145,600	98	162,450	88	359,450	93
Partnership	300	1	200	1	450	**	11,100	6	12,050	3
Corporation	300	2	200	1	750	1	2,250	1	3,500	1
Club/Ass'n	300	2	*	**	850	1	8,150	4	9,300	2
Trust	*	**	*	**	300	**	--	--	350	**
Other	*	**	*	**	--	--	*	**	50	**
Total	20,050	100	32,750	100	147,950	100	183,950	100	384,700	100
					ACRES OWNED					
Individual	1,122,550	88	1,323,850	91	3,343,650	87	2,025,000	90	7,815,050	89
Partnership	66,750	5	30,700	2	80,450	2	96,050	4	273,950	3
Corporation	45,900	4	52,600	4	195,350	5	96,050	4	389,900	4
Club/Ass'n	25,050	2	26,300	2	195,300	5	16,000	1	262,650	3
Trust	4,200	**	8,750	**	22,950	1	--	--	35,900	**
Other	4,150	**	8,800	1	--	--	8,000	**	20,950	**
Total	1,268,600	100	1,451,000	100	3,837,700	100	2,241,100	100	8,798,400	100

1/ Data may not add to totals due to rounding.

* Fewer than 25 owners

** Less than 0.5 percent

Table 9.--Estimated number of farm and nonfarm ownerships and acres of commercial forest land owned by form of ownership, Michigan, 1981

Form of ownership	Farm				Nonfarm				Total			
	Owners	Percent	Acres	Percent	Owners	Percent	Acres	Percent	Owners	Percent	Acres	Percent
Individuals	77,750	93	1,701,400	90	281,700	93	6,113,650	88	359,450	93	7,815,050	89
Business and group ownerships												
Partnerships	3,100	4	107,400	6	8,950	3	166,550	2	12,050	3	273,950	3
Corporations	2,000	3	55,650	3	1,500	1	334,250	5	3,500	1	389,900	4
Clubs/Ass'n	--	--	--	--	9,300	3	262,650	4	9,300	2	262,650	3
Trusts	300	**	11,500	1	50	**	24,400	**	350	**	35,900	**
Other	--	--	--	--	50	**	20,950	**	50	**	20,950	**
Subtotal	5,400	7	174,550	10	19,850	7	808,800	12	25,250	7	983,350	11
All owners	83,150	100	1,875,950	100	301,550	100	6,922,450	100	384,700	100	8,798,400	100

** Less than 0.5 percent

Table 10.--Estimated number of business or group ownerships by nature of business and form of ownership, Michigan, 1981

Nature of business	Form of ownership										All businesses and groups	
	Partnerships		Corporations		Clubs/ass'n		Trusts		Other			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS							
Nonforest industry	--	--	200	13	--	--	--	--	--	--	200	1
Nonindustrial business	200	2	100	7	--	--	--	--	--	--	300	2
Real estate/speculation	8,350	93	200	13	--	--	--	--	--	--	8,550	43
Recreation development	--	--	50	3	--	--	--	--	--	--	50	*
Timber management	*	**	*	**	--	--	--	--	--	--	*	*
Sports/recreation clubs	150	2	800	53	8,700	93	--	--	--	--	9,650	48
Conservation clubs	--	--	--	--	100	1	--	--	*	**	100	1
Youth organizations	--	--	50	3	--	--	*	**	--	--	50	*
Churches, others	--	--	--	--	200	2	--	--	*	**	200	1
Educational institutions	--	--	*	**	--	--	--	--	*	**	50	*
Personal recreation	250	3	100	7	300	4	50	100	--	--	700	4
Nonfarm subtotal	8,950	100	1,500	100	9,300	100	50	100	50	100	19,850	100
Farms	3,100		2,000		--		300		--		5,400	
Total	12,050		3,500		9,300		350		50		25,250	

* Fewer than 25 owners
** Less than 0.5 percent

Table 11.--Estimated acres of commercial forest land in business or group ownerships by nature of business and form of ownership, Michigan, 1981

Nature of business	Form of ownership										All businesses and groups	
	Partnerships		Corporations		Clubs/ass'n		Trusts		Other			
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
	ACRES OWNED											
Nonforest industry	--	--	82,900	25	--	--	--	--	--	--	82,900	10
Nonindustrial business	16,000	10	20,250	6	--	--	--	--	--	--	36,250	4
Real estate/speculation	84,100	52	97,300	30	--	--	--	--	--	--	181,400	22
Recreation development	--	--	8,000	2	--	--	--	--	--	--	8,000	1
Timber management	11,500	7	25,900	8	--	--	--	--	--	--	37,400	5
Sports/recreation clubs	16,550	10	43,750	13	227,150	86	--	--	--	--	287,450	35
Conservation clubs	--	--	--	--	11,500	4	--	--	4,200	29	15,700	2
Youth organizations	--	--	31,000	9	--	--	11,500	47	--	--	42,500	5
Churches, others	--	--	--	--	11,500	4	--	--	8,750	42	20,250	3
Educational institutions	--	--	8,000	2	--	--	--	--	8,000	38	16,000	2
Personal recreation	38,400	23	17,150	5	12,500	5	12,900	53	--	--	80,950	10
Nonfarm subtotal	166,550	100	334,250	100	262,650	100	24,400	100	20,950	100	808,800	100
Farms	107,400		55,650		--		11,500		--		174,550	
Total	273,950		389,900		262,650		35,900		20,950		983,350	

Table 12.--Estimated number of individual owners and acres of commercial forest land owned by occupation and forest survey unit, Michigan, 1981

Occupation	Eastern UP		Western UP		Northern LP		Southern LP		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Professional	2,250	12	4,900	15	18,800	13	21,050	13	47,000	13
Executive	1,700	9	5,700	18	23,250	16	16,950	10	47,600	13
Retired	4,900	26	10,600	33	30,500	21	27,950	17	73,950	20
White collar	1,500	8	2,600	8	3,950	3	16,400	10	24,450	7
Skilled trade	3,700	19	2,350	7	23,850	16	25,050	15	54,950	15
Unskilled laborer	1,200	6	1,450	4	6,100	4	12,050	7	20,800	6
Homemaker	1,100	6	350	1	2,650	2	17,500	11	21,600	6
Farmer	550	3	1,050	3	950	1	13,800	8	16,350	5
Other	50	**	200	1	4,600	3	550	**	5,400	2
No answer	2,150	11	3,100	10	30,950	21	11,150	7	47,350	13
Total	19,100	100	32,300	100	145,600	100	162,450	100	359,450	100
					ACRES OWNED					
Professional	104,350	9	258,600	20	425,150	13	152,050	7	940,150	12
Executive	162,750	15	149,050	11	413,650	12	240,100	12	965,550	12
Retired	317,150	28	350,650	26	942,200	28	464,250	23	2,074,250	27
White collar	91,800	8	78,900	6	241,300	7	120,050	6	532,050	7
Skilled trade	166,900	15	153,450	12	436,600	13	336,200	17	1,093,150	14
Unskilled laborer	79,250	7	78,900	6	195,350	6	136,100	7	489,600	6
Homemaker	45,900	4	30,700	2	68,950	2	40,000	2	185,550	2
Farmer	79,300	7	61,400	5	114,900	3	336,150	17	591,750	8
Other	8,350	1	26,300	2	68,950	2	16,000	**	119,600	2
No answer	66,800	6	135,900	10	436,600	13	184,100	9	823,400	10
Total	1,122,550	100	1,323,850	100	3,343,650	100	2,025,000	100	7,815,050	100

** Less than 0.5 percent

Table 13.--Occupation of individual owners whose forest land is part of an active farm, Michigan, 1981

Occupation	Private Owners		Acres Owned	
	Number	Percent	Number	Percent
Professional	7,450	10	68,700	4
Owner/Executive	2,300	3	97,800	6
Retired	15,150	19	354,300	21
White Collar	11,000	14	90,500	5
Skilled Trade	10,750	14	215,450	13
Homemaker	600	1	16,350	1
Laborer	8,700	11	140,200	8
Farmer	16,350	21	591,700	35
Other	400	1	8,000	**
No Answer	5,050	6	118,400	7
Total	77,750	100	1,701,400	100

** Less than 0.5 percent

Table 14.--Estimated number of individual owners and acres of commercial forest land owned by age class and forest survey unit, Michigan, 1981

Age class Years	Eastern UP		Western UP		Northern LP		Southern LP		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
0-24	100	**	50	**	450	**	8,050	5	8,650	2
25-44	5,300	28	5,100	16	39,500	27	48,600	30	98,500	27
45-64	8,200	43	14,550	45	62,700	43	68,400	42	153,850	43
65+	4,800	25	9,450	29	32,550	22	30,800	19	77,600	22
No answer	700	4	3,150	10	10,400	7	6,600	4	20,850	6
Total	19,100	100	32,300	100	145,600	100	162,450	100	359,450	100
					ACRES OWNED					
0-24	4,150	**	4,400	**	11,500	**	16,000	**	36,050	**
25-44	175,250	16	232,350	18	631,950	19	480,250	24	1,519,800	20
45-64	584,250	52	657,500	50	1,528,200	46	888,450	44	3,658,400	47
65+	321,350	29	346,300	26	953,700	29	560,250	28	2,181,600	28
No answer	37,550	3	83,300	6	218,300	6	80,050	4	419,200	5
Total	1,122,550	100	1,323,850	100	3,343,650	100	2,025,000	100	7,815,050	100

**Less than 0.5 percent

Table 15.--Estimated number of individual owners and acres of commercial forest land owned by years of formal education, Michigan, 1981

Education	Individual owners		Sampling error	Acres owned		Sampling error
	Number	Percent	Percent	Number	Percent	Percent
0-8 years	44,700	12	21	1,066,850	14	7
9-12 years	97,100	27	12	2,259,850	29	5
1-4 years of college[1/]	131,950	37	13	2,889,000	37	4
More than 4 years of college	47,450	13	18	1,048,250	13	8
No answer	38,250	11	29	551,100	7	11
Total	359,450	100	7	7,815,050	100	1

[1/] Includes trade school or other formal training beyond high school.

Table 16.--Estimated number of individual owners and acres of commercial forest land owned by annual income class and forest survey unit, Michigan, 1981

Annual income	Eastern UP		Western UP		Northern LP		Southern LP		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Under $10,000	3,500	18	10,100	31	27,250	19	29,100	18	69,950	20
$10-$14,999	2,700	14	7,200	22	11,900	8	17,450	11	39,250	11
$15-$19,999	1,850	10	2,200	7	20,450	14	19,550	12	44,050	12
$20-$24,999	3,100	16	1,850	6	23,400	16	14,700	9	43,050	12
$25-$29,999	1,300	7	1,500	5	6,800	5	24,200	15	33,800	9
$30,000+	4,300	23	3,500	11	20,800	14	35,000	21	63,600	18
No answer	2,350	12	5,950	18	35,000	24	22,450	14	65,750	18
Total	19,100	100	32,300	100	145,600	100	162,450	100	359,450	100
					ACRES OWNED					
Under $10,000	187,800	17	267,400	20	586,000	18	256,100	13	1,297,300	17
$10-$14,999	154,450	14	170,950	13	298,750	9	232,100	11	856,250	11
$15-$19,999	104,300	9	157,800	12	379,150	11	216,150	11	857,400	11
$20-$24,999	112,650	10	127,150	10	310,250	9	224,100	11	774,150	10
$25-$29,999	79,300	7	109,550	8	195,350	6	168,100	8	552,300	7
$30,000+	350,550	31	302,500	23	965,150	29	664,300	33	2,282,500	29
No answer	133,500	12	188,500	14	609,000	18	264,150	13	1,195,150	15
Total	1,122,550	100	1,323,850	100	3,343,650	100	2,025,000	100	7,815,050	100

Table 17.--Estimated number of individual owners and acres of commercial forest land owned by early life environment and forest survey unit, Michigan, 1981

Early life environment	Eastern UP		Western UP		Northern LP		Southern LP		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
City over 100,000	2,200	11	2,600	8	32,850	22	27,800	17	65,450	18
City 10,000-99,999	2,600	14	6,100	19	22,850	16	19,300	12	50,850	14
City less than 10,000	4,950	26	6,900	21	28,050	19	18,350	11	58,250	16
Rural area	3,800	20	9,500	30	24,750	17	27,550	17	65,600	18
Farm	4,650	24	4,000	12	26,150	18	60,050	37	94,850	27
No answer	900	5	3,200	10	10,950	8	9,400	6	24,450	7
Total	19,100	100	32,300	100	145,600	100	162,450	100	359,450	100
					ACRES OWNED					
City over 100,000	96,000	9	157,800	12	654,950	20	248,100	12	1,156,850	15
City 10,000-99,999	150,200	13	162,200	12	517,050	15	192,100	9	1,021,550	13
City less than 10,000	237,850	21	337,550	25	528,550	16	160,100	8	1,264,050	16
Rural area	275,450	25	276,150	21	402,150	12	376,200	19	1,329,950	17
Farm	317,150	28	311,250	24	976,650	29	920,450	45	2,525,500	32
No answer	45,900	4	78,900	6	264,300	8	128,050	6	517,150	7
Total	1,122,550	100	1,323,850	100	3,343,650	100	2,025,000	100	7,815,050	100

Table 18.--Estimated number of private ownership units and acres of commercial forest land owned by primary and secondary reason for owning, Michigan, 1981

Reason for owning	Primary reason		Secondary reason	
	Number	Percent	Number	Percent
	OWNERS			
Land investment	75,300	20	8,950	2
Nonmotor recreation	40,750	11	32,350	8
Motorized recreation	2,350	1	15,200	4
Timber production	5,750	1	9,150	2
Farm or domestic use	54,200	14	33,600	9
Esthetic enjoyment	37,950	10	57,250	15
Part of farm	37,150	10	37,600	10
Part of residence	75,450	20	17,150	4
Second home, cabin	20,100	5	13,000	3
Mineral value	4,400	1	8,500	2
Other	5,750	1	800	**
No answer	25,550	6	25,550	6
No second reason	--	--	125,600	32
Total	384,700	100	384,700	100
	ACRES OWNED			
Land investment	1,472,000	17	581,500	7
Nonmotor recreation	2,033,300	23	1,323,700	15
Motorized recreation	36,600	**	531,950	6
Timber production	499,300	6	559,500	7
Farm or domestic use	1,011,950	12	694,900	8
Esthetic enjoyment	832,500	9	1,023,450	11
Part of farm	750,150	8	426,000	5
Part of residence	944,150	11	359,550	4
Second home, cabin	488,400	6	388,250	4
Mineral value	170,550	2	349,200	4
Other	297,250	3	116,500	1
No answer	262,250	3	262,250	3
No second reason	--	--	2,181,650	25
Total	8,798,400	100	8,798,400	100

** Less than 0.5 percent

Table 19.--Estimated number of private ownership units and acres of commercial forest land owned by primary reason for owning by harvesters and nonharvesters, Michigan, 1981

Primary reason for owning	Owners		Sampling error	Acres owned		Sampling error
	Number	Percent	Percent	Number	Percent	Percent
MAJOR HARVESTERS						
Land investment	26,900	30	40	538,750	14	11
Nonmotor recreation	12,850	14	16	1,043,600	26	8
Motorized recreation	150	**	84	8,550	**	71
Timber production	3,750	4	23	421,950	11	13
Farm or domestic use	12,200	14	18	518,150	13	12
Esthetic enjoyment	4,800	5	34	183,600	5	20
Part of farm	15,650	17	23	433,100	11	13
Part of residence	8,300	9	17	379,450	10	12
Second home, cabin	3,050	3	33	193,750	5	19
Mineral value	300	**	60	63,550	2	45
Other	1,850	2	43	88,750	2	28
No answer	850	1	54	56,800	1	33
Total	90,650	100	12	3,930,000	100	3
MINOR AND NONHARVESTERS[1/]						
Land investment	48,400	18	24	933,250	20	8
Nonmotor recreation	27,750	10	15	973,800	21	8
Motorized recreation	2,200	1	39	28,050	1	50
Timber production	2,000	1	50	77,400	2	28
Farm or domestic use	41,500	15	29	474,300	10	12
Esthetic enjoyment	33,150	12	19	648,900	14	11
Part of farm	21,500	8	22	317,050	7	15
Part of residence	67,150	25	25	564,750	12	11
Second home, cabin	17,000	6	33	290,450	6	15
Mineral value	4,150	2	67	107,000	2	28
Other	3,850	1	24	208,450	4	18
No answer	3,250	1	63	70,400	1	38
Total	271,900	100	9	4,693,800	100	3
ALL RESPONDING OWNERS[2/]						
Land investment	75,300	21	21	1,472,000	17	6
Nonmotor recreation	40,600	11	11	2,017,400	23	5
Motorized recreation	2,350	1	81	36,600	**	41
Timber production	5,750	2	23	499,350	6	12
Farm or domestic use	53,700	15	23	992,450	12	8
Esthetic enjoyment	37,950	10	17	832,500	10	9
Part of farm	37,150	10	16	750,150	9	10
Part of residence	75,450	21	21	944,200	11	8
Second home, cabin	20,050	5	29	484,200	6	11
Mineral value	4,450	1	61	170,550	2	23
Other	5,700	2	21	297,200	3	15
No answer	4,100	1	50	127,200	1	25
Total	362,550	100	7	8,623,800	100	1

1/ Includes nonharvesters and those who harvest very small amounts of products or firewood for their own use.

2/ Excludes those who did not answer harvest question.

** Less than 0.5 percent

Table 20.--Estimated number of private ownership units and acres of commercial forest land owned by primary reason for owning and expected time of future harvest, Michigan, 1981

Reason for owning	Expected time of future harvest								All owners	
	Next 10 years		Indefinite		Never		No answer			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Land investment	20,100	23	14,600	14	36,200	24	4,450	10	75,350	20
Nonmotor recreation	7,450	9	18,700	18	13,600	9	1,000	2	40,750	11
Motorized recreation	2,200	3	150	**	--	--	--	--	2,350	1
Timber production	3,050	3	2,400	2	150	**	150	**	5,750	1
Farm or domestic use	24,000	28	10,050	10	18,450	12	1,650	4	54,200	14
Esthetic enjoyment	3,900	4	17,850	18	15,450	10	750	2	37,950	10
Part of farm	8,200	10	19,000	19	8,350	5	1,650	4	37,200	10
Part of residence	13,750	16	8,650	9	44,600	29	8,500	19	75,450	20
Second home/cabin	1,400	2	6,650	6	11,850	8	150	**	20,050	5
Mineral value	400	1	650	1	3,000	2	350	1	4,400	1
Other	700	1	2,350	2	1,350	1	1,300	3	5,700	1
No answer	200	**	500	**	200	**	24,650	55	25,550	6
Total	85,350	100	101,550	100	153,200	100	44,600	100	384,700	100
					ACRES OWNED					
Land investment	473,450	15	535,050	16	419,500	23	44,050	7	1,472,050	17
Nonmotor recreation	781,800	25	730,000	23	416,150	23	105,350	17	2,033,300	23
Motorized recreation	27,850	1	8,750	**	--	--	--	--	36,600	**
Timber production	366,750	11	98,100	3	23,000	1	11,500	2	499,350	6
Farm or domestic use	457,850	15	368,000	11	157,850	8	28,250	4	1011,950	11
Esthetic enjoyment	156,550	5	446,300	14	213,100	12	16,550	3	832,500	9
Part of farm	189,000	6	398,200	12	116,050	6	46,850	7	750,100	9
Part of residence	309,650	10	238,300	8	249,750	14	146,500	22	944,200	11
Second home/cabin	177,550	6	173,750	5	124,350	7	12,700	2	488,350	6
Mineral value	46,650	2	71,750	2	32,650	2	19,500	3	170,550	2
Other	75,650	2	129,200	4	60,500	3	31,900	5	297,250	3
No answer	29,600	1	27,150	1	20,050	1	185,400	28	262,200	3
Total	3,092,350	100	3,224,550	100	1,832,950	100	648,550	100	8,798,400	100

**Less than 0.5 percent

Table 21.--Estimated number of private ownership units and acres of commercial forest land owned by primary reason for owning and forest survey unit, Michigan, 1981

Primary reason for owning	Eastern UP			Western UP			Northern LP			Southern LP			All owners		
	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)	Number	Percent	Sampling error(%)
							OWNERS								
Land investment	2,900	14	21	3,350	10	24	39,800	27	36	29,300	16	35	75,350	20	21
Nonmotor	5,200	26	21	5,300	16	14	18,650	13	19	11,600	6	30	40,750	11	11
Motorized recreation	100	**	79	150	**	83	100	**	100	2,000	1	100	2,350	1	81
Timber production	300	2	38	850	3	34	1,750	1	34	2,850	2	43	5,750	1	23
Farm or domestic use	1,900	9	32	7,900	24	59	17,050	12	30	27,350	15	33	54,200	14	23
Esthetic enjoyment	2,200	11	47	1,850	6	28	16,050	11	25	17,850	10	29	37,950	10	17
Part of farm	600	3	35	700	2	34	2,600	2	40	33,300	18	18	37,200	10	16
Part of residence	3,950	20	26	4,300	13	31	27,300	18	45	39,900	22	32	75,450	20	21
Second home, cabin	1,950	10	25	5,150	16	49	10,400	7	57	2,550	1	70	20,050	5	29
Mineral value	100	1	100	300	1	54	950	1	50	3,050	2	87	4,400	1	61
Other	400	2	47	800	2	32	2,900	2	41	1,600	1	44	5,700	1	21
No answer	450	2	54	2,100	6	58	10,400	7	60	12,600	7	68	25,550	6	40
Total	20,050	100	10	32,750	100	18	147,950	100	15	183,950	100	12	384,700	100	7
							ACRES OWNED								
Land investment	242,050	19	13	267,400	18	13	666,450	17	13	296,150	13	16	1,472,050	17	6
Nonmotor recreation	367,250	29	10	381,400	26	11	1,068,550	28	10	216,100	10	19	2,033,300	23	5
Motorized recreation	8,350	1	71	8,750	1	71	11,500	**	100	8,000	**	100	36,600	**	41
Timber production	79,300	6	23	144,650	10	19	195,350	5	25	80,050	4	32	499,350	5	12
Farm or domestic use	100,150	8	20	114,000	8	19	413,600	11	16	384,200	17	14	1,011,950	12	8
Esthetic enjoyment	58,400	5	27	100,850	7	21	425,150	11	16	248,100	11	18	832,500	9	9
Part of farm	54,250	4	28	48,200	3	30	103,400	3	33	544,250	24	12	750,100	9	10
Part of residence	154,400	12	16	153,450	10	17	356,200	9	18	280,150	12	17	944,200	11	3
Second home, cabin	129,350	10	19	105,200	7	20	229,800	6	22	24,000	1	58	488,350	6	11
Mineral value	4,150	**	100	21,900	2	45	80,450	2	41	64,050	3	41	170,550	2	23
Other	37,550	3	33	65,750	5	26	137,900	4	29	56,050	2	38	297,250	3	15
No answer	33,400	3	38	39,450	3	33	149,350	4	29	40,000	2	45	262,200	3	17
Total	1,268,600	100	.82	1,451,000	100	.87	3,837,700	100	.50	2,241,100	100	1.63	8,798,400	100	.68

** Less than 0.5 percent

Table 22.--Estimated number of private ownership units and acres of commercial forest land owned by primary benefit received in the last 5 years and harvest history, Michigan, 1981

Primary benefit	Harvest history: Major harvest Number	Major harvest Percent	Minor harvest Number	Minor harvest Percent	Did not harvest Number	Did not harvest Percent	No answer Number	No answer Percent	All owners Number	All owners Percent
					OWNERS					
Land investment	18,850	21	5,600	7	51,850	27	--	--	76,300	20
Nonmotor recreation	14,800	16	11,150	14	25,100	13	150	1	51,200	13
Motorized recreation	50	**	100	**	1,400	1	--	--	1,550	**
Timber income	5,600	6	850	1	--	--	--	--	6,450	2
Farm or domestic use	10,550	12	28,900	36	12,200	6	500	2	52,150	14
Esthetic enjoyment	13,300	15	22,050	27	51,400	27	--	--	86,750	23
No important benefit	22,550	25	4,050	5	20,900	11	50	**	47,550	12
Other	3,700	4	7,250	9	24,000	13	--	--	34,950	9
No answer	1,250	1	400	**	4,700	2	21,450	97	27,800	7
Total	90,650	100	80,350	100	191,550	100	22,150	100	384,700	100
					ACRES OWNED					
Land investment	865,650	22	133,450	10	955,550	28	--	--	1,954,650	22
Nonmotor recreation	1,064,800	27	258,400	20	837,750	24	15,850	9	2,176,800	25
Motorized recreation	11,500	**	8,550	1	45,950	1	--	--	66,000	1
Timber income	410,700	11	20,400	2	--	--	--	--	431,100	5
Farm or domestic use	505,800	13	301,350	24	119,300	3	19,500	11	945,950	11
Esthetic enjoyment	554,400	14	387,700	31	809,900	24	--	--	1,752,000	20
No important benefit	286,050	7	72,450	6	408,250	12	4,200	3	770,950	9
Other	153,400	4	81,500	6	158,650	5	--	--	393,550	4
No answer	77,700	2	4,400	**	90,250	3	135,050	77	307,400	3
Total	3,930,000	100	1,268,200	100	3,425,600	100	174,600	100	8,798,400	100

**Less than 0.5 percent

Table 23.--Estimated number of private ownership units and acres of commercial forest land owned by primary benefits expected in the next 5 years and harvest history, Michigan, 1981

Primary benefit	Harvest history: Major harvest Number	Major harvest Percent	Minor harvest Number	Minor harvest Percent	Did not harvest Number	Did not harvest Percent	No answer Number	No answer Percent	All owners Number	All owners Percent
					OWNERS					
Land investment	29,350	32	8,950	11	58,400	30	0	0	96,700	25
Nonmotor recreation	13,000	14	8,200	10	28,700	15	150	1	50,050	13
Motorized recreation	--	--	50	**	1,500	1	--	--	1,550	**
Timber income	4,100	5	1,150	1	1,200	1	50	**	6,500	2
Farm or domestic use	11,700	13	28,450	35	7,400	4	250	1	47,800	13
Esthetic enjoyment	14,850	16	19,900	25	42,500	22	250	1	77,500	20
No important benefit	4,250	5	4,350	6	16,100	8	--	--	24,700	6
Retirement/ emergency income	2,500	3	1,850	2	11,050	6	--	--	15,400	4
Develop for other use	4,250	5	1,650	2	1,450	1	--	--	7,350	2
Other	4,750	5	4,500	6	18,450	10	--	--	27,700	7
No answer	1,900	2	1,300	2	4,800	2	21,450	97	29,450	8
Total	90,650	100	80,350	100	191,550	100	22,150	100	384,700	100
					ACRES OWNED					
Land investment	890,550	23	198,250	15	1,008,850	29	--	--	2,097,650	24
Nonmotor rec.	1,027,500	26	242,400	19	763,850	22	15,900	9	2,049,650	23
Motorized rec.	--	--	8,550	1	43,250	1	--	--	51,800	1
Timber income	323,650	8	36,050	3	52,200	2	4,150	2	416,050	5
Farm or domestic use	462,300	12	268,600	21	134,900	4	8,000	5	873,800	10
Esthetic enjoyment	497,750	12	327,100	26	700,750	20	11,500	7	1,537,100	17
No important benefit	205,050	5	36,750	3	265,800	8	--	--	507,600	6
Retirement/ emergency income	149,000	4	52,050	4	146,350	4	--	--	347,400	4
Develop for other use	46,850	1	12,400	1	55,550	2	--	--	114,800	1
Other	222,100	6	73,700	6	167,000	5	--	--	462,800	5
No answer	105,250	3	12,350	1	87,100	3	135,050	77	339,750	4
Total	3,930,000	100	1,268,200	100	3,425,600	100	174,600	100	8,798,400	100

**Less than 0.5 percent

Table 24.--Estimated number of private ownership units and acres of commercial forest land owned by primary benefit expected in next 5 years and expected time of future harvest, Michigan, 1981

Primary benefit	Expected time of future harvest: Next 10 years Number	Next 10 years Percent	Indefinite Number	Indefinite Percent	Never Number	Never Percent	No answer Number	No answer Percent	All owners Number	All owners Percent
					OWNERS					
Land investment	24,100	28	25,500	25	41,500	27	5,600	13	96,700	25
Nonmotor recreation	6,400	7	18,550	18	23,650	16	1,450	3	50,050	13
Motorized recreation	250	**	650	1	650	**	--	--	1,550	**
Timber Income	4,350	5	1,450	1	400	**	300	1	6,500	2
Farm or domestic use	21,050	25	11,400	11	11,450	7	3,900	9	47,800	12
Esthetic enjoyment	21,150	25	23,900	24	30,300	20	2,150	5	77,500	20
No important benefit	750	1	9,550	10	12,250	8	2,150	5	24,700	7
Retirement/emer. income	3,250	4	2,350	2	9,600	6	200	**	15,400	4
Develop for other use	300	**	300	**	6,600	4	150	**	7,350	2
Other	3,550	4	7,200	7	16,200	11	750	2	27,700	7
No answer	200	**	700	1	600	**	27,950	62	29,450	8
Total	85,350	100	101,550	100	153,200	100	44,600	100	384,700	100
					ACRES OWNED					
Land investment	762,200	25	778,400	24	442,800	24	114,250	18	2,097,650	24
Nonmotor rec.	752,350	24	733,150	23	467,150	26	97,000	15	2,049,650	23
Motorized rec.	20,250	1	20,050	1	11,500	1	--	--	51,800	1
Timber income	304,500	10	69,100	2	22,950	1	19,500	3	416,050	5
Farm or domestic use	402,800	13	276,650	9	154,450	8	39,900	6	873,800	10
Esthetic enjoy.	439,500	14	707,000	22	310,950	17	79,650	12	1,537,100	17
No important ben.	65,000	2	220,200	7	159,000	9	63,400	10	507,600	6
Retirement/emer. income	103,200	3	167,700	5	68,500	4	8,000	1	347,400	4
Develop for other use	43,150	1	31,750	1	35,500	2	4,400	1	114,800	1
Other	161,200	5	176,850	5	109,100	6	15,650	3	462,800	5
No answer	38,200	1	43,700	1	51,050	3	206,800	31	339,750	4
Total	3,092,350	100	3,224,550	100	1,832,950	100	648,550	100	8,798,400	100

** Less than 0.5 percent

Table 25.--Estimated number of private ownership units and acres of commercial forest land by form of ownership and harvest history, Michigan, 1981

Form of ownership	Harvest history: Major harvest Number	Major harvest Percent	Minor harvest Number	Minor harvest Percent	Did not harvest Number	Did not harvest Percent	No answer Number	No answer Percent	All owners Number	All owners Percent
					OWNERS					
Individual	88,150	23	77,950	20	179,200	47	14,150	4	359,450	93
Part/Corp.	1,750	**	2,400	1	11,400	3	*	**	15,550	4
Other	750	**	*	**	950	**	8,000	2	9,700	3
Total	90,650	23	80,350	21	191,550	50	22,150	6	384,700	100
					ACRES OWNED					
Individual	3,335,650	38	1,207,800	14	3,109,400	35	162,200	2	7,815,050	89
Part/Corp.	354,250	4	56,250	**	248,950	3	4,400	**	663,850	7
Other	240,100	3	4,150	**	67,250	1	8,000	**	319,500	4
Total	3,930,000	45	1,268,200	14	3,425,600	39	174,600	2	8,798,400	100

* Fewer than 25 owners
** Less than 0.5 percent

Table 26.--Estimated number of major harvesters and acres of commercial forest land owned by reason for harvesting and form of ownership, Michigan, 1981

Reason for harvesting	Form of ownership							
	Individual		Partnership Corporation		Other		All forms	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
				MAJOR HARVESTERS				
For own use	10,100	12	*	**	*	**	10,100	11
Mature timber	16,500	19	350	20	400	53	17,250	19
Thinning, improvement	15,400	18	400	23	150	20	15,950	18
Salvage	6,450	7	400	23	--	--	6,850	8
Good price	7,000	8	100	6	--	--	7,100	8
Clear land	17,800	20	250	14	--	--	18,050	20
Needed money	11,600	13	250	14	100	13	11,950	13
Other	1,250	1	--	--	50	7	1,300	1
No answer	2,050	2	--	--	50	7	2,100	2
Total	88,150	100	1,750	100	750	100	90,650	100
				ACRES OWNED				
For own use	523,800	16	23,000	7	11,500	5	558,300	14
Mature timber	1,100,600	33	109,800	31	99,400	41	1,309,800	33
Thinning, improvement	503,700	15	90,350	26	66,500	28	660,550	17
Salvage	259,250	8	46,650	13	--	--	305,900	8
Good price	118,350	3	39,900	11	--	--	158,250	4
Clear land	123,350	4	32,350	9	--	--	155,700	4
Needed money	525,000	16	12,200	3	8,000	3	545,200	14
Other	129,900	4	--	--	34,450	14	164,350	4
No answer	51,700	1	--	--	20,250	9	71,950	2
Total	3,335,650	100	354,250	100	240,100	100	3,930,000	100

* Fewer than 25 owners
** Less than 0.5 percent

Table 27.--Estimated number of private ownership units on which products have been harvested and acres of commercial forest land owned by reason for harvesting and forest survey unit, Michigan, 1981

Reason for harvesting	Forest Survey Unit									
	Eastern UP		Western UP		Northern LP		Southern LP		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					MAJOR HARVESTERS					
For own use	1,650	21	600	7	3,600	10	4,250	11	10,100	11
Timber mature	2,100	26	2,700	33	5,350	15	7,100	18	17,250	19
Thin/improvement cut	700	9	1,500	18	4,250	12	9,500	25	15,950	18
Salvage	700	9	500	6	1,400	4	4,250	11	6,850	8
Offered good price	250	3	500	6	4,150	12	2,200	6	7,100	8
Land clearing	1,050	13	150	2	13,950	39	2,900	7	18,050	20
Needed money	1,050	13	1,950	24	1,500	4	7,450	19	11,950	13
Other	400	5	*	**	900	2	--	--	1,300	1
No answer	100	1	250	3	700	2	1,050	3	2,100	2
Total	8,000	100	8,150	100	35,800	100	38,700	100	90,650	100
					ACRES OWNED					
For own use	87,650	13	43,850	6	298,750	18	128,050	14	558,300	14
Timber mature	221,150	33	245,500	35	563,000	35	280,150	31	1309,800	33
Thin/improvement cut	112,700	17	131,500	19	264,300	16	152,050	17	660,550	17
Salvage	62,600	9	43,850	6	103,400	6	96,050	10	305,900	8
Offered good price	29,200	4	35,050	5	45,950	3	48,050	5	158,250	4
Land clearing	29,200	4	17,550	2	68,950	4	40,000	4	155,700	4
Needed money	100,150	15	166,550	24	126,400	8	152,100	17	545,200	14
Other	29,200	4	8,750	1	126,400	8	--	--	164,350	4
No answer	8,350	1	13,150	2	34,450	2	16,000	2	71,950	2
Total	680,200	100	705,750	100	1,631,600	100	912,450	100	3,930,000	100

* Fewer than 25 owners
** Less than 0.5 percent

Table 28.--Estimated number of private ownership units and acres of commercial forest land owned by farm and nonfarm, harvest history, and forest survey unit, Michigan, 1981

Harvest history	Private owners				Acres owned			
	Farm		Nonfarm		Farm		Nonfarm	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
EASTERN UP								
Major harvest	1,650	59	6,350	37	150,250	74	529,950	50
Minor harvest	700	25	2,450	14	20,900	10	125,200	12
No harvest	450	16	8,200	48	33,350	16	400,600	37
No answer	--	--	250	1	--	--	8,350	1
Total	2,800	100	17,250	100	204,500	100	1,064,100	100
WESTERN UP								
Major harvest	950	36	7,200	24	105,200	62	600,550	47
Minor harvest	1,150	43	9,650	32	39,450	23	157,850	12
No harvest	550	21	11,350	38	26,300	15	495,350	39
No answer	--	--	1,900	6	--	--	26,300	2
Total	2,650	100	39,100	100	170,950	100	1,280,050	100
NORTHERN UP								
Major harvest	6,850	44	28,950	22	356,200	66	1,275,400	38
Minor harvest	4,450	28	19,100	15	45,950	8	390,650	12
No harvest	4,300	28	77,150	58	137,900	26	1,539,700	47
No answer	--	--	7,150	5	--	--	91,900	3
Total	15,600	100	132,350	100	540,050	100	3,297,650	100
SOUTHERN LP								
Major harvest	20,350	33	18,350	15	520,250	54	392,200	31
Minor harvest	17,050	27	25,800	21	224,100	23	264,100	20
No harvest	24,700	40	64,850	53	216,100	23	576,300	45
No answer	--	--	12,850	11	--	--	48,050	4
Total	62,100	100	121,850	100	960,450	100	1,280,650	100
ALL UNITS								
Major harvest	29,800	36	60,850	20	1,131,900	60	2,798,100	40
Minor harvest	23,350	28	57,000	19	330,400	18	937,800	14
No harvest	30,000	36	161,550	54	413,650	22	3,011,950	44
No answer	--	--	22,150	7	--	--	174,600	2
Total	83,150	100	301,550	100	1,875,950	100	6,922,450	100

Table 29.--Estimated number of private ownership units that have had no harvest and acres of commercial forest land owned by reason for not harvesting and form of ownership, Michigan, 1981[1/]

Reason for not harvesting	Individual		Part./Corp.		Other		All nonharvesters	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
				NONHARVESTERS				
Timber immature	36,050	14	150	1	150	16	36,350	13
No market	2,100	1	--	--	--	--	2,100	1
Price too low	2,400	1	150	1	--	--	2,550	1
Poor quality	17,250	7	1,600	12	--	--	18,850	7
Low volume	36,350	14	8,050	58	--	--	44,400	16
Small area	5,500	2	--	--	--	--	5,500	2
Selling land	8,650	3	300	2	*	**	8,950	3
Land in estate	1,800	1	--	--	--	--	1,800	1
Destroy hunting	14,950	6	150	1	200	21	15,300	6
Ruin scenery	34,050	13	700	5	500	53	35,250	13
Distrust loggers	1,600	1	*	**	--	--	1,600	1
Opposed to harvest	11,100	4	--	--	--	--	11,100	4
Fire hazard	50	**	--	--	--	--	50	**
Saving for retirement	9,400	4	350	3	--	--	9,750	4
Legacy for heirs	8,700	3	--	--	--	--	8,700	3
Other	9,050	3	250	2	100	10	9,400	3
No answer	58,150	23	2,100	15	*	**	60,250	22
Total	257,150	100	13,800	100	950	100	271,900	100
				ACRES OWNED				
Timber immature	632,600	15	57,200	19	12,750	18	702,550	15
No market	55,200	1	--	--	--	--	55,200	1
Price too low	120,050	3	20,050	7	--	--	140,100	3
Poor quality	182,200	4	8,000	3	--	--	190,200	4
Low volume	154,750	4	12,150	4	--	--	166,900	4
Small area	66,500	2	--	--	--	--	66,500	1
Selling land	161,650	4	70,200	23	4,400	6	236,250	5
Land in estate	23,650	**	--	--	--	--	23,650	**
Destroy hunting	518,100	12	12,200	4	4,150	6	534,450	11
Ruin scenery	462,900	11	44,250	14	34,450	48	541,600	12
Distrust loggers	114,700	3	8,000	3	--	--	122,700	3
Opposed to harvest	101,850	2	--	--	--	--	101,850	2
Fire hazard	4,400	**	--	--	--	--	4,400	**
Saving for retirement	303,800	7	12,200	4	--	--	316,000	7
Legacy for heirs	181,850	4	--	--	--	--	181,850	4
Other	265,600	6	28,750	9	11,500	16	305,850	7
No answer	967,400	22	32,200	10	4,150	6	1,003,750	21
Total	4,317,200	100	305,200	100	71,400	100	4,693,800	100

[1/] Includes ownerships that harvested small amounts of products or firewood for their own use.

* Fewer than 25 owners
** Less than 0.5 percent

Table 30.--Estimated number of private ownership units that have had no harvest and acres of commercial forest land owned by reason for not harvesting and forest survey unit, Michigan, 1981[1/]

Reason for not harvesting	Eastern UP		Western UP		Northern LP		Southern LP		All nonharvesters	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Timber immature	1,550	13	2,000	9	13,450	13	19,350	15	36,350	13
No market	200	2	50	**	250	**	1,600	1	2,100	1
Price too low	350	3	150	1	900	1	1,150	1	2,550	1
Poor quality	200	2	1,250	6	9,400	9	8,000	6	18,850	7
Low volume	800	7	50	**	19,800	19	23,750	18	44,400	16
Small area	500	4	--	--	4,600	5	400	**	5,500	2
Selling land	650	6	300	1	2,300	2	5,700	4	8,950	3
Land in estate	100	1	--	--	350	**	1,350	1	1,800	1
Destroy hunting	650	5	3,450	15	9,450	9	1,750	1	15,300	6
Ruin scenery	400	3	2,000	9	10,250	10	22,600	17	35,250	13
Distrust loggers	300	3	100	1	850	1	350	**	1,600	1
Opposed to harvest	--	--	50	**	2,350	2	8,700	7	11,100	4
Fire hazard	--	--	50	**	--	--	--	--	50	**
Saving for retirement	1,100	9	750	3	3,450	3	4,450	4	9,750	4
Legacy for heirs	150	1	300	1	4,350	4	3,900	3	8,700	3
Other	1,550	13	1,250	6	2,200	2	4,400	3	9,400	3
No answer	3,300	28	10,950	48	21,050	20	24,950	19	60,250	22
Total	11,800	100	22,700	100	105,000	100	132,400	100	271,900	100
					ACRES OWNED					
Timber immature	66,800	12	135,900	19	275,750	13	224,100	17	702,550	15
No market	8,350	1	4,350	1	34,500	2	8,000	1	55,200	1
Price too low	20,850	4	26,300	4	68,950	3	24,000	2	140,100	3
Poor quality	16,700	3	17,550	2	91,900	4	64,050	5	190,200	4
Low volume	25,050	4	4,350	**	57,450	3	80,050	6	166,900	4
Small area	12,550	2	--	--	45,950	2	8,000	1	66,500	1
Selling land	54,250	9	35,100	5	114,900	5	32,000	2	236,250	5
Land in estate	4,150	1	--	--	11,500	1	8,000	1	23,650	**
Destroy hunting	45,900	8	61,350	8	379,150	18	48,050	4	534,450	11
Ruin scenery	25,050	4	65,750	9	298,750	14	152,050	12	541,600	12
Distrust loggers	20,850	4	4,400	1	57,450	3	40,000	3	122,700	3
Opposed to harvest	--	--	4,400	1	57,450	3	40,000	3	101,850	2
Fire hazard	--	--	4,400	1	--	--	--	--	4,400	**
Saving for retirement	54,250	9	65,750	9	91,950	4	104,050	8	316,000	7
Legacy for heirs	20,850	4	17,550	2	103,400	5	40,050	3	181,850	4
Other	45,900	8	57,000	8	114,900	5	88,050	7	305,850	7
No answer	158,550	27	214,800	30	310,250	15	320,150	25	1,003,750	21
Total	580,050	100	718,950	100	2,114,200	100	1,280,600	100	4,693,800	100

[1/] Includes ownerships that harvested small amounts of products or firewood for their own use.

** Less than 0.5 percent

Table 31.--Estimated number of individual owners and acres of commercial forest land owned by occupation and expected time of future harvest, Michigan, 1981

Occupation	Expected time of future harvest: 1-10 years		Indefinite		Never		No answer		All individual owners	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Professional	7,200	15	18,250	39	21,250	45	300	1	47,000	100
Executive	23,050	47	7,000	15	16,450	35	1,100	2	47,600	100
Retired	11,850	16	24,900	33	28,700	39	8,500	11	73,950	100
White collar	3,550	15	4,700	20	16,050	65	150	**	24,450	100
Skilled trade	15,150	27	23,650	43	12,850	23	3,300	6	54,950	100
Homemaker	1,650	8	900	5	18,750	87	300	1	21,600	100
Unskilled labor	6,550	31	6,850	33	6,000	29	1,400	7	20,800	100
Farmer	7,850	48	6,250	39	1,900	11	350	2	16,350	100
Other	200	4	2,250	41	550	10	2,400	45	5,400	100
No answer	5,850	12	4,600	10	19,800	42	17,100	36	47,350	100
Total	82,900	23	99,350	28	142,300	40	34,900	10	359,450	100
					ACRES OWNED					
Professional	342,150	36	419,950	45	165,100	18	12,950	1	940,150	100
Executive	358,050	37	342,150	35	206,650	22	58,700	6	965,550	100
Retired	557,750	27	820,850	39	538,150	26	157,500	8	2,074,250	100
White collar	235,550	44	179,350	34	101,500	19	15,650	3	532,050	100
Skilled trade	369,300	34	498,450	45	185,050	17	40,350	4	1,093,150	100
Homemaker	65,200	34	44,250	24	63,700	36	12,400	6	185,550	100
Unskilled labor	151,900	32	180,800	37	118,050	24	38,850	8	489,600	100
Farmer	269,450	46	258,750	44	39,900	6	23,650	4	591,750	100
Other	21,150	16	51,800	43	23,650	21	23,000	20	119,600	100
No answer	221,850	27	156,350	18	236,000	29	209,200	25	823,400	100
Total	2,592,350	33	2,952,700	38	1,677,750	21	592,250	7	7,815,050	

** Less than 0.5 percent

Table 32.--Estimated number of private ownership units and acres of commercial forest land owned by size class and expected time of future harvest and size class of ownership, Michigan, 1981

Expected time of future harvest	Size class of ownership (acres): 1 - 49 acres		50 - 99 acres		100-499 acres		500+ acres		All classes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
1 - 10 years	71,850	21	7,200	32	5,500	38	800	68	85,350	22
Indefinite	85,800	25	9,100	40	6,350	44	300	20	101,550	26
Never	146,550	42	4,650	20	1,900	13	100	8	153,200	40
No answer	42,100	12	1,700	8	750	5	50	4	44,600	12
Total	346,300	100	22,650	100	14,500	100	1,250	100	384,700	100
					ACRES OWNED					
1 - 10 years	864,700	23	505,750	33	1,007,700	41	714,200	67	3,092,350	35
Indefinite	1,361,850	37	629,700	40	989,000	40	244,000	22	3,224,550	37
Never	1,119,750	30	303,400	20	323,950	13	85,850	8	1,832,950	21
No answer	363,000	10	116,350	7	137,650	6	31,550	3	648,550	7
Total	3,709,300	100	1,555,200	100	2,458,300	100	1,075,600	100	8,798,400	100

Table 33.--Estimated number of private ownership units on which timber has been harvested and acres of commercial forest land owned by method of selecting timber and individual selecting timber, Michigan, 1981

Method of selecting timber	Individual selecting timber							All harvesters		
	Landowner	Forester	Friend or neighbor	Buyer	Landowner & forester	Landowner & buyer	No answer	Number	Percent	Sampling error %
					MAJOR HARVESTERS					
Selection	19,800	3,400	600	3,900	2,900	3,400	150	34,150	38	27
Diameter limit	10,400	1,650	500	6,000	750	1,900	--	21,200	23	12
Clearcutting	2,350	400	--	1,050	50	300	--	4,150	5	28
Land clearing	2,750	--	*	50	--	--	--	2,800	3	37
Other	7,750	100	300	1,900	350	250	450	11,100	12	30
Combination	50	--	--	--	--	--	--	50	**	74
Don't know	4,900	*	3,950	3,750	--	550	50	13,200	15	41
No answer	1,550	50	--	350	--	--	2,050	4,000	4	30
Total	49,550	5,600	5,350	17,000	4,050	6,400	2,700	90,650	100	12
					ACRES OWNED					
Selection	432,400	375,150	19,850	188,150	141,150	118,200	8,550	1,283,450	32	7
Diameter limit	572,600	110,200	24,400	243,050	51,150	97,650	--	1,099,050	26	7
Clearcutting	183,500	89,000	--	55,600	65,450	35,500	--	429,050	10	13
Land clearing	130,350	--	23,000	4,150	--	--	--	157,500	5	21
Other	328,200	43,250	8,000	59,250	27,850	31,750	11,450	509,750	15	12
Combination	8,750	--	--	--	--	--	--	8,750	**	71
Don't know	77,000	8,750	20,050	125,650	--	11,500	12,950	255,900	7	16
No answer	55,000	15,650	--	21,150	--	--	94,750	186,550	5	20
	1,787,800	642,000	95,300	697,000	285,600	294,600	127,700	3,930,000	100	3

* Fewer than 25 owners
** Less than 0.5 percent

Table 34.--Estimated number of private ownership units on which products have been harvested and acres of commercial forest land owned by timber product harvested and size class of ownership, Michigan, 1981[1/]

Timber product	Size class of ownership (acres)									
	1 - 49 acres		50 - 99 acres		100-499 acres		500+ acres		All harvesters	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					MAJOR HARVESTERS					
Sawlogs	28,850	40	4,750	48	4,600	59	350	37	38,550	43
Veneer logs	5,300	7	1,350	14	1,150	15	100	11	7,900	9
Pulpwood	10,450	15	3,950	40	3,800	49	550	58	18,750	21
Posts, poles, pilings	4,100	6	1,400	14	1,600	21	50	5	7,150	8
Tie bolts	100	**	200	2	250	3	*	**	600	1
Christmas trees	2,750	4	1,200	13	800	10	100	11	4,850	5
Firewood	34,600	48	4,300	44	3,500	45	450	47	42,850	47
Other	2,350	3	100	1	200	3	*	**	2,650	3
Don't know	6,100	8	900	9	500	6	50	5	7,550	8
Total	72,050		9,850		7,800		950		90,650	
					ACRES OWNED					
Sawlogs	608,000	56	336,000	49	801,500	59	412,650	52	2,158,150	55
Veneer logs	89,700	8	94,150	14	208,650	15	154,000	19	546,500	14
Pulpwood	180,100	17	282,150	41	704,850	52	599,600	75	1,766,700	45
Posts, poles, pilings	118,200	11	38,300	13	260,400	19	85,400	11	552,300	14
Tie bolts	4,400	**	12,700	2	53,700	4	19,850	2	90,650	2
Christmas trees	48,450	4	79,100	12	111,100	8	59,150	7	297,800	8
Firewood	402,700	37	305,600	45	592,500	43	278,600	35	1,579,400	40
Other	48,250	4	8,550	1	48,450	4	8,550	1	113,800	3
Don't know	140,050	13	60,050	9	89,550	7	31,550	4	321,200	8
Total	1,088,200		680,200		1,366,400		795,200		3,930,000	

1/ Items do not add to total because some owners may have harvested more than one product.
* Fewer than 25 owners
** Less than 0.5 percent

Table 35.--Estimated number of private owners interested in an improvement cut and acres of commercial forest land owned by these owners by distance from residence to nearest tract, size class of ownership, and forest survey unit, Michigan, 1981

Distance to nearest tract (miles)	Size class of ownership (acres)								All interested owners	
	1 - 49 acres		50 - 99 acres		100-499 acres		500+ acres			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
					EASTERN UP					
0 - 24	4,400	61	1,050	56	1,100	54	250	78	6,800	59
25 - 49	600	8	--	--	100	4	--	--	700	6
50+	2,250	31	750	40	800	40	50	22	3,850	34
No answer	--	--	100	4	50	2	*	**	150	1
Total	7,250	100	1,900	100	2,050	100	300	100	11,500	100
					WESTERN UP					
0 - 24	4,800	44	1,700	49	1,350	66	50	25	7,900	48
25 - 49	2,550	23	150	5	100	6	50	25	2,850	17
50+	2,850	26	1,100	33	500	25	100	50	4,550	27
No answer	800	7	450	13	50	3	*	**	1,300	8
Total	11,000	100	3,400	100	2,000	100	200	100	16,600	100
					NORTHERN LP					
0 - 24	18,900	45	2,900	49	2,350	51	250	50	24,400	46
25 - 49	--	--	350	6	--	--	--	--	350	1
50+	20,900	50	2,500	42	2,200	48	250	50	28,850	49
No answer	2,000	5	100	3	50	1	*	**	2,150	4
Total	41,800	100	5,850	100	4,600	100	500	100	52,750	100
					SOUTHERN LP					
0 - 24	52,650	80	2,500	72	950	68	50	100	56,150	80
25 - 49	150	**	250	7	250	18	--	--	650	1
50+	8,950	14	600	18	200	14	*	**	9,750	14
No answer	3,750	6	100	3	--	--	--	--	3,850	5
Total	65,500	100	3,450	100	1,400	100	50	100	70,400	100
					ALL UNITS					
0 - 24	80,750	64	8,150	56	5,750	56	600	65	92,250	63
25 - 49	3,300	3	750	5	450	4	50	**	4,550	3
50+	34,950	28	4,950	34	3,700	38	400	35	44,000	29
No answer	6,550	5	750	5	150	2	*	**	7,450	5
Total	125,500	100	14,600	100	10,050	100	1,050	100	151,250	100

* Fewer than 25 owners
** Less than 0.5 percent

(Table 35 continued on next page)

Table 35.-continued

Distance to nearest tract (miles)	Size class of ownership (acres)								All interested owners	
	1 - 49 acres		50 - 99 acres		100-499 acres		500+ acres			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					ACRES					
					EASTERN UP					
0 - 24	70,950	44	66,750	53	191,950	51	54,250	41	383,900	48
25 - 49	12,500	8	--	--	20,850	6	--	--	33,350	4
50+	79,300	48	50,100	40	154,400	41	75,100	56	358,900	45
No Answer	--	--	8,350	7	8,350	2	4,200	3	20,900	3
Total	162,750	100	125,200	100	375,550	100	133,550	100	797,050	100
					WESTERN UP					
0 - 24	96,450	48	113,950	48	232,350	62	96,450	48	539,200	53
25 - 49	17,550	9	13,150	6	30,700	8	21,900	11	83,300	8
50+	74,500	37	83,300	35	105,200	28	74,550	37	337,550	33
No Answer	13,150	6	26,300	11	8,750	2	8,750	4	56,950	6
Total	201,650	100	236,700	100	377,000	100	201,650	100	1,017,000	100
					NORTHERN LP					
0 - 24	402,150	55	195,350	47	356,200	47	252,750	50	1,206,450	50
25 - 49	--	--	23,000	6	--	--	--	--	23,000	1
50+	275,750	37	183,850	44	390,650	51	241,300	48	1,091,550	45
No Answer	57,450	8	11,500	3	11,500	2	11,500	2	91,950	4
Total	735,350	100	413,700	100	758,350	100	505,550	100	2,412,950	100
					SOUTHERN LP					
0 - 24	688,350	84	160,100	71	176,100	76	64,050	89	1,088,600	81
25 - 49	8,000	1	16,000	7	32,000	14	--	--	56,000	4
50+	72,050	9	40,000	18	24,000	10	8,000	11	144,050	11
No Answer	48,000	6	8,000	4	--	--	--	--	56,000	4
Total	816,400	100	224,100	100	232,100	100	72,050	100	1,344,650	100
					ALL UNITS					
0 - 24	1,257,900	66	536,150	54	956,600	54	467,500	51	3,218,150	58
25 - 49	38,050	2	52,150	5	83,550	5	21,900	2	195,650	3
50+	501,600	26	357,250	36	674,250	39	398,950	44	1,932,050	35
No Answer	118,600	6	54,100	5	28,600	2	24,450	3	225,750	4
Total	1,916,150	100	999,650	100	1,743,000	100	912,800	100	5,571,650	100

* Fewer than 25 owners
** Less than 0.5 percent

Table 36.--Estimated number of private owners who never plan to harvest timber and acres of commercial forest land owned by distance to residence and interest in an improvement cut, Michigan, 1981

Distance to residence (miles)	Interested in improvement cut						All owners who never plan to harvest	
	Yes		No		No answer			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
				OWNERS				
0 - 24	25,900	55	57,750	80	17,400	51	101,050	66
25 - 49	600	1	1,150	2	--	--	1,750	1
50+	19,550	42	10,550	15	6,950	20	37,050	24
No answer	1,100	2	2,500	3	9,750	29	13,350	9
Total	47,150	100	71,950	100	34,100	100	153,200	100
				ACRES OWNED				
0 - 24	370,700	45	468,100	60	108,300	47	947,100	51
25 - 49	28,950	3	40,300	5	--	--	69,250	4
50+	401,300	50	234,900	30	57,450	24	693,650	38
No answer	16,550	2	39,550	5	66,800	29	122,900	7
Total	817,500	100	782,850	100	232,550	100	1,832,900	100

Table 37A.--Estimated number of individual owners who are interested in an improvement cut by owner characteristics and forest survey unit, Michigan, 1981

Owner characteristics	Eastern UP		Western UP		Northern LP		Southern LP		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
AGE (years)										
>24	--	--	**	**	450	1	100	**	550	**
25-44	3,600	33	2,850	18	18,400	36	19,100	28	43,950	30
45-64	4,400	41	8,050	49	20,350	40	34,700	51	67,500	46
65+	2,600	24	5,150	31	9,500	18	14,300	21	31,550	22
No answer	200	2	300	2	2,350	5	100	**	2,950	2
Total	10,800	100	16,350	100	51,050	100	68,300	100	146,500	100
EDUCATION										
1-8 years	2,000	18	1,300	8	5,650	11	11,700	17	20,650	14
9-12 years	2,500	23	5,050	31	10,850	21	21,300	31	39,700	27
1-4 years of college	4,550	42	6,900	42	25,000	49	19,150	28	55,600	38
More than 4 years of college	1,600	15	2,750	17	7,400	15	14,400	21	26,150	18
No answer	150	2	350	2	2,150	4	1,750	3	4,400	3
Total	10,800	100	16,350	100	51,050	100	68,300	100	146,500	100
OCCUPATION										
Professional	1,000	9	3,250	20	10,650	21	9,750	14	24,650	17
Executive	1,350	12	1,000	6	4,250	8	9,300	14	15,900	11
Retired	3,050	28	5,700	35	10,150	20	13,000	19	31,900	22
White collar	850	8	2,150	13	3,750	7	2,550	4	9,300	6
Skilled labor	2,200	20	1,550	10	14,300	28	11,550	17	29,600	20
Homemaker	400	4	200	2	1,050	2	9,000	13	10,650	7
Unskilled labor	400	4	1,200	7	2,800	5	4,100	6	8,500	6
Farmer	200	1	450	3	400	1	6,500	9	7,550	5
Other	*	**	100	**	850	2	600	1	1,550	1
No answer	1,350	12	750	4	2,850	6	1,950	3	6,900	5
Total	10,800	100	16,350	100	51,050	100	68,300	100	146,500	100
INCOME (thousand dollars)										
0-9	1,900	17	6,450	39	6,150	12	13,400	20	27,900	19
10-14	1,100	10	2,050	13	4,150	8	9,700	14	17,000	12
15-19	900	9	1,200	7	5,650	11	8,500	12	16,250	11
20-24	2,100	19	1,550	10	10,100	20	7,100	10	20,850	14
25-29	1,050	10	800	5	3,100	6	5,300	8	10,250	7
30+	2,900	27	3,100	19	17,800	35	21,100	31	44,900	31
No answer	850	8	1,200	7	4,100	8	3,200	5	9,350	6
Total	10,800	100	16,350	100	51,050	100	68,300	100	146,500	100

* Fewer than 25 owners
** Less than 0.5 percent

Table 37B.--Estimated number of commercial forest acres owned by individuals interested in an improvement cut by owner characteristics and forest survey unit, Michigan, 1981

Owner characteristics	Eastern UP		Western UP		Northern LP		Southern LP		All units	
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
AGE (years)										
>24	--	--	4,350	**	11,500	1	8,000	1	23,850	**
25-44	112,700	16	170,950	18	379,150	19	272,150	23	934,950	20
45-64	371,400	55	504,150	54	1,068,600	54	576,250	49	2,520,400	53
65+	183,600	27	210,450	23	459,600	23	312,150	26	1,165,800	24
No answer	12,500	2	39,450	4	68,950	3	8,000	1	128,900	3
Total	680,200	100	929,350	100	1,987,800	100	1,176,550	100	4,773,900	100
EDUCATION										
1-8 years	91,800	14	100,850	11	264,250	13	72,050	6	528,950	11
9-12 years	191,950	28	258,650	28	482,600	24	384,150	33	1,317,350	28
1-4 years of college	279,600	41	368,250	40	815,800	41	480,200	41	1,943,850	41
More than 4 years of college	104,350	15	166,550	18	367,700	19	184,100	16	822,700	17
No answer	12,500	2	35,050	3	57,450	13	56,050	4	161,050	3
Total	680,200	100	929,350	100	1,987,800	100	1,176,550	100	4,773,900	100
OCCUPATION										
Professional	75,150	11	214,800	23	333,200	17	104,050	9	727,200	15
Executive	121,050	18	122,750	13	287,250	15	168,050	14	699,100	15
Retired	191,950	28	206,050	22	517,050	26	280,150	24	1,195,200	25
White collar	62,600	9	61,400	7	229,800	12	48,000	4	401,800	8
Skilled labor	100,150	15	113,950	12	241,300	12	200,100	17	655,500	14
Homemaker	20,850	3	21,900	3	23,000	1	16,000	1	81,750	2
Unskilled labor	33,350	5	57,000	6	103,400	5	56,050	5	249,800	5
Farmer	45,900	7	35,100	4	57,450	3	216,100	19	354,550	7
Other	4,150	**	21,900	2	46,000	2	16,000	1	88,050	2
No answer	25,050	4	74,500	8	149,350	7	72,050	6	320,950	7
Total	680,200	100	929,350	100	1,987,800	100	1,176,550	100	4,773,900	100
INCOME (thousand dollars)										
0-9	96,000	14	144,700	15	252,750	13	120,050	10	613,500	13
10-14	91,800	14	127,150	14	183,850	9	160,050	14	562,850	12
15-19	66,800	10	105,200	11	241,300	12	112,050	10	525,350	11
20-24	75,100	11	109,600	12	195,350	10	144,050	12	524,100	11
25-29	50,050	7	65,750	7	126,400	6	80,050	7	322,250	7
30+	258,700	38	267,400	29	758,350	38	488,250	41	1,772,700	37
No answer	41,750	6	109,550	12	229,800	12	72,050	6	453,150	9
Total	680,200	100	929,350	100	1,987,800	100	1,176,550	100	4,773,900	100

** Less than 0.5 percent

Table 38.--Estimated number of private ownership units and acres of commercial forest land owned by requests for forestry assistance and forest survey unit, Michigan, 1981

Forestry assistance requested	Forest survey unit									
	Eastern UP		Western UP		Northern LP		Southern LP		All Units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Yes	2,650	13	4,750	14	15,900	11	15,750	9	39,050	10
No	16,000	80	24,750	76	119,650	81	151,300	82	311,700	81
No answer	1,400	7	3,250	10	12,400	8	16,900	9	33,950	9
Total	20,050	100	37,750	100	147,950	100	183,950	100	384,700	100
					ACRES OWNED					
Yes	333,850	26	495,350	34	1,126,050	29	520,250	23	2,475,500	28
No	880,500	70	889,900	61	2,527,800	66	1,608,800	72	5,907,000	67
No answer	54,250	4	65,750	5	183,850	5	112,050	5	415,900	5
Total	1,268,600	100	1,451,000	100	3,837,700	100	2,241,100	100	8,798,400	100

Table 39.--Estimated number of private ownership units and acres of commercial forest land owned by owners who have requested forestry assistance and size class of ownership, Michigan, 1981

Size class of ownership (acres)	All private owners		Owners that requested assist.		Percent of size class
	Number	Percent	Number	Percent	Percent
			OWNERS		
1-49	346,300	90	29,200	75	8
50-99	22,650	6	4,650	12	20
100-499	14,500	4	4,600	12	32
500+	1,250	**	600	1	48
Total	384,700	100	39,050	100	10
			ACRES		
1-49	3,709,300	42	630,800	25	17
50-99	1,555,200	18	314,350	13	20
100-499	2,458,300	28	897,200	36	36
500+	1,075,600	12	633,150	26	59
Total	8,798,400	100	2,475,500	100	28

** Less than 0.5 percent

Table 40.--Estimated number of private ownership units who requested forestry assistance and acres of commercial forest land owned by size class of ownership and distance from residence to nearest tract, Michigan, 1981

Size class of ownership (acres)	Distance from residence (miles)								All owners who requested assistance	
	0-24		25-49		50+		No Answer			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					ASSISTED OWNERS					
1-49	23,250	60	500	1	3,450	9	2,000	5	29,200	75
50-99	3,450	9	450	1	650	1	100	**	4,650	12
100-499	2,850	7	150	**	1,500	4	100	**	4,600	12
500+	300	1	50	**	200	1	50	**	600	1
Total	29,850	77	1,150	3	5,800	15	2,250	5	39,050	100
					ACRES OWNED					
1-49	490,800	20	21,150	1	71,850	3	47,000	2	630,800	25
50-99	226,200	9	31,750	1	52,000	2	4,400	**	314,350	13
100-499	499,900	20	41,000	2	324,750	13	31,550	1	897,200	36
500+	335,950	14	24,650	1	248,150	10	24,400	1	633,150	26
Total	1,552,850	63	118,550	5	696,750	28	107,350	4	2,475,500	100

** Less than 0.5 percent

Table 41.--Estimated number of private ownership units and acres of commercial forest land owned by harvesters and nonharvesters, and request for forestry assistance, Michigan, 1981

Forestry assistance requested	Private owners			Acres owned		
	Number	Percent	Sampling error %	Number	Percent	Sampling error %
			MAJOR HARVESTERS			
Yes	20,900	5	13	1,755,850	20	6
No	66,900	17	15	2,046,650	23	5
No answer	2,850	1	33	127,500	2	21
Total	90,650	23	12	3,930,000	45	3
			MINOR HARVESTERS			
Yes	9,000	2	29	229,450	3	17
No	68,800	18	16	994,850	11	8
No answer	2,550	1	48	43,900	**	41
Total	80,350	21	14	1,268,200	14	7
			NONHARVESTERS			
Yes	9,100	2	19	478,700	5	12
No	175,450	46	13	2,841,850	32	4
No answer	7,000	2	35	105,050	1	25
	191,550	50	12	3,425,600	39	4
			NO ANSWER			
Yes	50	**	100	11,500	**	100
No	550	**	62	23,650	**	58
No answer	21,550	6	46	139,450	2	23
Total	22,150	6	44	174,600	2	21
			ALL OWNERS			
Yes	39,050	10	10	2,475,500	26	5
No	311,700	81	8	5,907,000	69	2
No answer	33,950	9	29	415,900	5	12
Total	384,700	100	7	8,798,400	100	.68

** Less than 0.5 percent

Table 42.--Estimated number of private owners who requested forestry assistance and acres of commercial forest land owned by size class of ownership and type of assistance received, Michigan, 1981

Nature of assistance	Ownership size class (acres)								All owners who requested assist.	
	1-49 acres		50-99 acres		100-499 acres		500+ acres			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					ASSISTED OWNERS					
Gen. mgt.[1/]	8,900	30	1,500	32	1,600	35	250	43	12,250	31
Timber sales[2/]	7,300	25	1,300	28	1,350	29	200	33	10,150	26
TSI[3/]	3,150	11	700	15	700	15	50	8	4,600	11
Planting	6,150	21	200	4	400	9	50	8	6,800	18
No answer	3,700	13	950	20	550	12	50	8	5,250	14
Total	29,200	100	4,650	100	4,600	100	600	100	39,050	100
					ACRES OWNED					
Gen. mgt.[1/]	204,500	32	102,200	34	326,800	37	295,050	48	928,550	38
Timber sales[2/]	168,550	27	85,500	26	252,350	28	208,400	32	714,800	29
TSI[3/]	100,800	15	44,800	14	128,200	14	41,800	7	315,600	12
Planting	76,950	13	11,500	4	73,800	8	15,850	2	178,100	7
No answer	80,000	13	70,350	22	116,050	13	72,050	11	338,450	14
Total	630,800	100	314,350	100	897,200	100	633,150	100	2,475,500	100

[1/] Includes management planning, surveying, and insect and disease control.

[2/] Includes timber marking, sales assistance, and determination of merchantability.

[3/] Includes thinning, improvement cuts, pruning, herbicide applications, and other timber stand improvements.

Table 43.--Estimated number of private owners who requested forestry assistance and acres of commercial forest land owned by distance from residence to nearest forest tract and type of assistance, Michigan, 1981

Type of assistance	Miles from nearest tract: <25 Number	<25 Percent	25-49 Number	25-49 Percent	50+ Number	50+ Percent	No answer Number	No answer Percent	All owners who requested assist. Number	All owners who requested assist. Percent
					ASSISTED OWNERS					
Gen. mgt.[1/]	9,800	33	550	48	1,250	22	650	29	12,250	31
Timber sales[2/]	8,350	28	400	35	1,000	17	400	18	10,150	26
TSI[3/]	4,050	13	150	13	400	7	--	--	4,600	12
Planting	4,350	15	50	4	2,400	41	--	--	6,800	18
No Answer	3,300	11	--	--	750	13	1,200	53	5,250	13
Total	29,850	100	1,150	100	5,800	100	2,250	100	39,050	100
					ACRES OWNED					
Gen. mgt.[1/]	539,450	35	51,800	44	296,850	43	40,450	38	928,550	37
Timber sales[2/]	462,550	30	46,500	39	177,700	25	28,050	26	714,800	29
TSI[3/]	269,700	17	8,750	7	37,150	5	--	--	315,600	13
Planting	105,000	7	11,500	10	61,600	9	--	--	178,100	7
No answer	176,150	11	--	--	123,450	18	38,850	36	338,450	14
Total	1,552,850	100	118,550	100	696,750	100	107,350	100	2,475,500	100

[1/] Includes management planning, surveying, and insect and disease control.

[2/] Includes timber marking, sales assistance, and determination of merchantability.

[3/] Includes thinning, improvement cuts, pruning, herbicide applications, and other timber stand improvements.

Table 44.--Estimated distribution of all assisted individual owners and acres of commercial forest land owned by owner age class and nature of assistance, Michigan, 1981[4/]

Nature of assistance	Owner age group (years) 25-44 Percent	45-64 Percent	65+ Percent	No answer Percent	All owners Percent
		ASSISTED OWNERS			
Gen. mgt.[1/]	10(42)	13(34)	7(22)	**(5)	30
Timber sales[2/]	7(28)	7(19)	11(33)	**(4)	25
TSI[3/]	4(14)	4(13)	3(10)	**(**)	12
Planting	-- --	7(19)	10(29)	2(37)	18
No answer	4(16)	5(15)	2(7)	2(54)	14
Total	25(100)	37(100)	34(100)	4(100)	100
		ACRES OWNED			
Gen. mgt.[1/]	7(41)	17(36)	10(30)	1(15)	35
Timber sales[2/]	5(29)	11(25)	10(31)	1(24)	27
TSI[3/]	4(20)	7(15)	4(11)	**(5)	15
Planting	-- --	3(7)	4(12)	1(30)	8
No answer	2(10)	7(17)	5(16)	1(26)	15
Total	18(100)	46(100)	32(100)	4(100)	100

1/ Includes management planning, surveying, and insect and disease control.

2/ Includes timber marking, sales assistance, and determination of merchantability.

3/ Includes thinning, improvement cuts, pruning, herbicide applications, and other timber stand improvements.

4/ Distribution over the entire population of assisted owners is listed first, followed (in parentheses) by percent within the age class.

** Less than 0.5 percent

Table 45.--Estimated distribution of all assisted individual owners and acres of commercial forest land owned by occupation group and nature of assistance, Michigan, 1981

Nature of assistance	Occupation group									
	Prof. Percent	Exec. Percent	Retired Percent	White collar Percent	Skilled trade Percent	Home maker Percent	Unskilled laborer Percent	Farmer Percent	Other Percent	No answer Percent
					ASSISTED OWNERS					
Gen. mgt.[1/]	9(50)[4/]	5(74)	5(16)	3(64)	4(23)	-- --	**(14)	4(38)	-- --	**(11)
Timber sales[2/]	1(8)	**(5)	10(32)	1(12)	8(48)	1(28)	**(8)	3(26)	1(21)	1(15)
TSI[3/]	3(19)	**(7)	5(14)	1(19)	**(2)	**(1)	1(36)	1(7)	**(2)	**(5)
Planting	3(19)	**(3)	10(31)	-- --	1(6)	-- --	-- --	-- --	2(64)	2(58)
No Answer	1(4)	1(11)	2(7)	**(4)	3(20)	2(71)	1(42)	3(28)	**(13)	**(10)
Total	17(100)	7(100)	33(100)	5(100)	16(100)	3(100)	2(100)	11(100)	2(100)	4(100)
Population[5/]	13	13	20	7	15	6	6	5	2	13
					ACRES OWNED					
Gen. mgt.[1/]	7(44)	7(50)	9(31)	2(35)	2(25)	-- --	**(11)	4(37)	-- --	1(27)
Timber sales[2/]	3(17)	3(20)	8(28)	2(36)	5(47)	1(43)	**(15)	3(29)	1(36)	1(27)
TSI[3/]	4(21)	1(9)	5(17)	1(9)	1(6)	**(13)	1(43)	2(18)	**(7)	**(7)
Planting	1(8)	1(9)	3(10)	-- --	1(9)	-- --	-- --	-- --	1(25)	1(19)
No answer	2(10)	2(12)	4(14)	1(20)	2(14)	**(43)	1(31)	2(16)	1(32)	1(20)
Total	17(100)	15(100)	29(100)	7(100)	11(100)	1(100)	2(100)	10(100)	2(100)	5(100)
Population[5/]	12	12	27	7	14	2	6	8	2	10

[1/] Includes management planning, surveying, and insect and disease control.

[2/] Includes timber marking, sales assistance, and determination of merchantability.

[3/] Includes thinning, improvement cuts, pruning, herbicide applications, and other timber stand improvements.

[4/] Overall distribution is listed first, followed (in parentheses) by percent within the age class.

[5/] Distribution within overall population.

** Less than 0.5 percent

Table 46.--Estimated distribution of all assisted individual owners and acres of commercial forest land owned by education group and nature of assistance, Michigan, 1981

Nature of assistance	Education group					
	Grade 1-8 Percent	Grade 9-12 Percent	H.S.+ Percent	B.S. Percent	Post graduate Percent	No answer Percent
			ASSISTED OWNERS			
Gen. mgt.[1/]	2(30)[4/]	9(29)	7(40)	3(29)	10(30)	**(3)
Timber sales[2/]	2(39)	10(33)	5(28)	3(30)	5(14)	**(4)
TSI[3/]	1(10)	2(8)	3(17)	2(23)	4(11)	**(1)
Planting	-- --	1(4)	**(2)	2(16)	12(39)	3(84)
No answer	1(21)	9(26)	2(12)	1(2)	2(6)	**(8)
Total	6(100)	31(100)	18(100)	10(100)	32(100)	3(100)
Population[5/]	12	27	26	11	13	11
			ACRES OWNED			
Gen. mgt.[1/]	1(18)	7(30)	9(35)	5(38)	11(41)	1(24)
Timber sales[2/]	2(33)	7(27)	8(32)	5(33)	6(21)	1(41)
TSI[3/]	1(7)	3(13)	4(17)	3(18)	4(16)	**(4)
Planting	-- --	2(8)	1(4)	1(8)	2(10)	2(41)
No answer	3(41)	5(21)	3(12)	1(3)	3(12)	**(11)
Total	7(100)	24(100)	25(100)	14(100)	26(100)	4(100)
Population[5/]	14	29	27	10	13	7

[1/] Includes management planning, surveying, and insect and disease control.

[2/] Includes timber marking, sales assistance, and determination of merchantability.

[3/] Includes thinning, improvement cuts, pruning, herbicide applications, and other timber stand improvements.

[4/] Overall distribution is listed first, followed (in parentheses) by percent within the age class.

[5/] Distribution within the overall population.

** Less than 0.5 percent

Table 47.--Estimated distribution of assisted individual owners and acres of commercial forest land by income group and nature of assistance, Michigan, 1981

Nature of assistance	Income group (thousand dollars)						
	> 10 Percent	10-15 Percent	15-20 Percent	20-25 Percent	25-30 Percent	30 + Percent	No answer Percent
				ASSISTED OWNERS			
Gen. mgt.[1/]	5(39)[4/]	2(13)	2(11)	3(28)	3(60)	15(49)	1(8)
Timber sales[2/]	2(16)	6(51)	6(26)	5(44)	1(12)	4(14)	2(23)
TSI[3/]	1(9)	2(13)	3(13)	1(4)	1(28)	2(8)	2(26)
Planting	1(6)	1(13)	10(47)	-- --	-- --	4(12)	2(34)
No answer	4(30)	1(10)	**(3)	3(23)	**(**)	5(17)	**(9)
Total	13(100)	12(100)	21(100)	12(100)	5(100)	30(100)	7(100)
Population[5/]	20	11	12	12	9	18	18
				ACRES OWNED			
Gen. mgt.[1/]	3(31)	1(13)	2(15)	3(35)	2(41)	20(46)	3(26)
Timber sales[2/]	2(16)	4(45)	5(42)	4(47)	2(38)	9(19)	2(23)
TSI[3/]	1(13)	2(18)	3(21)	1(7)	1(18)	5(12)	2(20)
Planting	1(12)	1(6)	2(16)	-- --	-- --	3(7)	1(16)
No answer	3(28)	1(17)	**(6)	**(10)	**(3)	8(16)	2(15)
Total	10(100)	9(100)	12(100)	8(100)	5(100)	45(100)	10(100)
Population[5/]	17	11	11	10	7	29	15

[1/] Includes management planning, surveying, and insect and disease control.

[2/] Includes timber marking, sales assistance, and determination of merchantability.

[3/] Includes thinning, improvement cuts, pruning, herbicide applications, and other stand improvements.

[4/] Overall distribution is listed first, followed (in parentheses) by percent within the age class.

[5/] Distribution within the overall population.

** Less than 0.5 percent

Table 48.--Estimated number of private ownership units and acres of commercial forest land owned by size class of ownership and agency that owners would contact for forestry assistance, Michigan, 1981

Agency	Ownership size class (acres)								All owners	
	1-49		50-99		100-499		500+			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
County forester	6,100	2	150	1	50	**	50	4	6,350	2
State forester	34,400	10	4,350	19	3,200	22	250	19	42,200	11
SCS	3,550	1	950	4	550	4	50	4	5,100	1
USFS	6,900	2	250	4	600	4	250	23	8,000	2
ASCS	4,900	1	750	3	650	4	*	**	6,300	2
Consultant/ industry for.	3,550	1	900	4	500	4	150	12	5,100	1
Extension service	3,200	1	450	2	300	2	*	**	3,950	1
Other	8,050	2	50	**	450	3	50	4	8,600	2
Don't know	171,650	50	10,400	46	6,300	44	300	23	188,650	49
No answer	104,000	30	4,400	20	1,900	13	150	11	110,450	29
Total	346,300	100	22,650	100	14,500	100	1,250	100	384,700	100
					ACRES OWNED					
County forester	39,900	1	12,400	1	15,850	1	23,000	2	91,150	1
State forester	574,750	16	301,450	19	581,100	24	261,100	25	1,718,400	20
SCS	90,500	2	67,800	4	102,050	4	36,150	3	296,500	3
USFS	104,200	3	17,150	1	101,800	4	91,450	8	314,600	3
ASCS	87,500	2	48,100	3	88,750	4	17,100	2	241,450	3
Consultant/ industry for.	36,400	1	56,650	4	111,400	4	178,750	17	383,200	4
Extension service	95,800	3	23,000	2	50,450	2	4,150	**	173,400	2
Other	142,100	4	4,400	**	93,950	4	19,800	2	260,250	3
Don't know	1,839,200	49	726,500	47	1,009,500	41	268,500	25	3,843,700	44
No answer	698,950	19	297,750	19	303,450	12	175,600	16	1,475,750	17
Total	3,709,300	100	1,555,200	100	2,458,300	100	1,075,600	100	8,798,400	100

* Fewer than 25 owners
** Less than 0.5 percent

Table 49.--Estimated number of private ownership units and acres of commercial forest land owned by decision to seek assistance and agency that owners would contact for forestry assistance, Michigan, 1981

Agency	Forestry assistance sought: Yes Number	Yes Percent	No Number	No Percent	No answer Number	No answer Percent	All owners Number	All owners Percent
			OWNERS					
County forester	1,500	4	4,850	2	--	--	6,350	2
State forester	15,700	41	26,100	8	400	2	42,200	11
SCS	2,650	7	2,350	1	100	**	5,100	1
USFS	2,150	6	5,850	2	--	--	8,000	2
ASCS	3,700	9	2,600	1	--	--	6,300	2
Consultant/ industry for.	4,450	11	650	**	--	--	5,100	1
Extension service	1,300	3	2,650	1	--	--	3,950	1
Other	750	2	7,850	2	--	--	8,600	1
Don't know	4,850	12	183,250	59	550	2	188,650	49
No answer	2,000	5	75,550	24	32,900	96	110,450	29
Total	39,050	100	311,700	100	33,950	100	384,700	100
			ACRES OWNED					
County forester	59,250	2	31,900	1	--	--	91,150	1
State forester	955,400	39	755,000	13	8,000	2	1,718,400	20
SCS	208,050	8	80,450	1	8,000	2	296,500	3
USFS	179,400	7	135,200	2	--	--	314,600	3
ASCS	166,750	7	74,700	1	--	--	241,450	3
Consultant/ industry for.	333,300	14	49,900	1	--	--	383,200	4
Extension service	67,400	3	106,000	2	--	--	173,400	2
Other	52,950	2	207,300	3	--	--	260,250	3
Don't know	283,150	11	3,544,200	60	16,350	4	3,843,700	44
No answer	169,850	7	922,350	16	383,550	92	1,475,750	17
Total	2,475,500	100	5,907,000	100	415,900	100	8,798,400	100

** Less than 0.5 percent

Table 50.--Estimated number of private ownership units and acres of commercial forest land owned by availability for recreation, Michigan, 1981

Recreation availability	Owners Number	Owners Percent	Owners Sampling error %	Acres owned Number	Acres owned Percent	Acres owned Sampling error %
Owner permits recreation and does not recreate	9,500	3	28	331,300	4	14
Owner recreates and permits recreation	55,250	14	16	2,016,550	23	5
Owner recreates and excludes public	230,050	60	9	5,372,700	61	2
Subtotal recreation	294,800	77	8	7,720,550	88	1
Not used and not permitted	39,850	10	35	476,550	5	13
No answer	50,050	13	25	601,300	7	11
Total	384,700	100	7	8,798,400	100	.68

Table 51.--Estimated number of private ownership units and acres of commercial forest land owned by type of recreational use by the owner, the owner's family, or immediate circle of friends, Michigan, 1981

Recreation by owners, family, and friends	Private owners			Acres owned		
	Number	Percent	Sampling error %	Number	Percent	Sampling error %
Hiking or skiing	104,950	27	10	3,226,550	36	4
Picnicking	43,700	11	15	1,575,750	18	6
Camping	60,700	16	13	2,017,550	23	5
Fishing	43,600	11	16	1,876,800	21	5
Hunting or trapping	169,200	44	9	5,500,200	63	2
Snowmobiling or trail biking	84,850	22	14	2,468,950	28	5
Berry picking	88,450	23	13	2,508,250	28	4
Other	50,900	13	25	997,300	11	8
Some recreational use by self [1/]	285,300	74	8	7,389,250	84	1
No uses indicated	99,400	26	19	1,409,150	16	7
Total	384,700	100	7	8,798,400	100	.68

[1/] Columns do not add to total because some owners report more than one type of use.

Table 52.--Estimated number of private ownership units and acres of commercial forest land owned by type of public use permitted, Michigan, 1981

Type of public use permitted	Owners			Acres owned		
	Number	Percent	Sampling error %	Number	Percent	Sampling error %
Hiking or skiing	31,200	8	26	1,052,950	12	7
Picnicking	5,900	2	25	348,450	4	13
Camping	4,150	1	23	335,400	4	14
Fishing	10,050	2	18	634,500	7	9
Hunting or trapping	44,150	11	19	1,677,900	19	5
Snowmobiling or trail biking	29,100	8	28	1,039,700	11	7
Berry picking	14,650	4	18	745,100	8	9
Other	2,700	1	34	191,706	2	19
Some type of public use permitted [1/]	64,750	17	14	2,347,850	26	4
Public use not permitted	179,600	47	11	4,133,050	47	3
No uses indicated	140,350	36	14	2,317,500	27	5
Total	384,700	100	7	8,798,400	100	.68

[1/] Columns do not add to total because some owners report more than one type of use.

Table 53.--Estimated number of private ownership units and acres of commercial forest land owned by availability for recreational use and forest survey unit, Michigan, 1981

Recreational use	Eastern UP		Western UP		Northern LP		Southern LP		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Public use:										
Hiking	1,850	9	4,300	13	9,600	6	15,450	8	31,200	8
Hunting	4,400	22	5,800	18	13,000	9	20,950	11	44,150	11
Snowmobiling	2,300	11	3,850	12	8,000	5	14,950	8	29,100	8
Some types of public use permitted [1]	5,650	28	8,550	26	19,650	13	30,900	17	64,750	17
Public use not permitted	9,200	46	10,800	33	82,650	56	76,950	42	179,600	47
No uses indicated	5,200	26	13,400	41	45,650	31	76,100	41	140,350	36
Total	20,050	100	32,750	100	147,950	100	183,950	100	384,700	100
Owner recreation:										
Hiking	7,000	35	10,850	33	38,200	26	48,900	27	104,950	27
Hunting	13,150	66	14,850	45	63,250	43	77,950	42	169,200	44
Snowmobiling	7,000	35	7,400	23	32,000	22	38,450	21	84,850	22
Some recreational use by self indicated [1]	17,850	89	28,350	87	106,100	72	133,000	72	285,300	74
No uses indicated	2,200	11	4,400	13	41,850	28	50,950	28	99,400	26
Total	20,050	100	32,750	100	147,950	100	183,950	100	384,700	100
					ACRES OWNED					
Public use:										
Hiking	133,550	10	333,150	23	402,150	10	184,100	8	1,052,950	12
Hunting	267,050	21	486,600	34	540,050	14	384,200	17	1,677,900	19
Snowmobiling	162,750	13	333,200	23	367,650	10	176,100	8	1,039,700	12
Some types of public use permitted [1]	367,250	29	640,050	44	804,300	21	536,250	24	2,347,850	27
Public use not permitted	525,800	41	526,000	36	2,056,750	54	1,024,500	46	4,133,050	47
No uses indicated	375,550	30	284,950	20	976,650	25	680,350	30	2,317,500	26
Total	1,268,600	100	1,451,000	100	3,837,700	100	2,241,100	100	8,798,400	100
Owner recreation:										
Hiking	450,700	36	613,700	42	1401,800	36	760,350	34	3,266,550	37
Hunting	897,200	71	933,700	64	2,596,750	68	1,072,550	48	5,500,200	62
Smowmobiling	417,300	33	394,500	27	1,240,950	32	416,200	19	2,468,950	28
Some types of public use permitted [1]	1,147,550	90	1,240,600	85	3,240,200	84	1,760,900	79	7,389,250	84
No uses indicated	121,050	10	210,400	15	597,500	16	480,200	21	1,409,150	16
Total	1,268,600	100	1,451,000	100	3,837,700	100	2,241,100	100	8,798,400	100

[1] Columns do not add to total because some owners report more than one type of use.

Table 54.--Estimated number of private ownership units and acres of commercial forest land owned by availability for recreational use and size class, Michigan, 1981

Public use permitted	Size class of ownership								All owners	
	1-49		50-99		100-499		500+			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Yes	52,800	15	7,350	32	4,050	28	550	44	64,750	17
No	162,700	47	9,850	44	6,550	45	500	40	179,600	47
No answer	130,800	38	5,450	24	3,900	27	200	16	140,350	36
Total	346,300	100	22,650	100	14,500	100	1250	100	384,700	100
					ACRES OWNED					
Yes	782,800	21	501,650	32	695,850	28	367,550	34	2,347,850	27
No	1,856,000	50	670,450	43	1,133,100	46	473,500	44	4,133,050	47
No answer	1,070,500	29	383,100	25	629,350	26	234,550	22	2,317,500	26
Total	3,709,300	100	1,555,200	100	2,458,300	100	1,075,600	100	8,798,400	100

Table 55.--Estimated number of private ownership units and acres of commercial forest land owned by whether land is posted and forest survey unit, Michigan, 1981

Land posted	Eastern UP		Western UP		Northern LP		Southern LP		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
					OWNERS					
Yes	5,800	29	6,800	21	51,450	35	48,350	26	112,400	29
No	13,250	66	23,050	70	82,900	56	104,300	57	223,500	58
No answer	1,000	5	2,900	9	13,600	9	31,300	17	48,800	13
Total	20,050	100	32,750	100	147,950	100	183,950	100	384,700	100
					ACRES OWNED					
Yes	467,400	37	455,900	31	2,298,000	60	984,500	44	4,205,800	48
No	746,950	59	933,700	65	1,298,400	34	1,104,550	49	4,083,600	46
No answer	54,250	4	61,400	4	241,300	6	152,050	7	509,000	6
Total	1,268,600	100	1,451,000	100	3,837,700	100	2,241,100	100	8,798,400	100

Table 56.--Estimated number of private ownership units and acres of commercial forest land owned by reason for posting and use permitted, Michigan, 1981

Reason for posting	Public use permitted: Yes		No		No answer		All owners	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
				OWNERS				
Abuse of property	2,850	4	10,100	6	3,800	3	16,750	4
Safety	2,050	3	7,400	4	6,650	5	16,100	4
Liability	1,600	3	750	**	--	--	2,350	1
Control access	4,800	7	30,650	17	7,100	5	42,550	11
Control hunting	2,450	4	10,850	6	11,200	8	24,500	6
Not specified	1,300	2	6,100	4	2,750	2	10,150	3
All reasons	15,050	23	65,850	37	31,500	23	112,400	29
Land not posted	46,900	73	97,750	54	78,850	56	223,500	58
No answer	2,800	4	16,000	9	30,000	21	48,800	13
Total	64,750	100	179,600	100	140,350	100	384,700	100
				ACRES OWNED				
Abuse of property	158,850	7	384,800	9	143,950	6	687,600	8
Safety	52,600	2	187,450	5	105,700	5	345,750	4
Liability	28,200	1	62,500	2	--	--	90,700	1
Control access	310,900	13	1,118,150	27	260,150	11	1,689,200	19
Control hunting	146,450	7	520,400	12	267,600	12	934,450	11
Not specified	68,550	3	293,350	7	96,200	4	458,100	5
All reasons	765,550	33	2,566,650	62	873,600	38	4,205,800	48
Land not posted	1,530,550	65	1,387,850	34	1,165,200	50	4,083,600	46
No answer	51,700	2	178,600	4	278,700	12	509,000	6
Total	2,347,800	100	4,133,100	100	2,317,500	100	8,798,400	100

** Less than 0.5 percent

Table 57.--Estimated number of private ownership units and acres of commercial forest land owned by availability for hunting, Michigan, 1981

Hunting availability	Owners		Acres	
	Number	Percent	Number	Percent
Owner permits hunting and does not hunt	10,100	3	466,100	5
Owner hunts and permits hunting	34,050	9	1,211,800	14
Owner hunts and excludes public hunting	135,150	35	4,288,400	49
Subtotal hunting	179,300	47	5,966,300	68
No hunting	155,350	40	2,230,750	25
No answer	50,050	13	601,350	7
Total	384,700	100	8,798,400	100

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Estimates the number and distribution of nonindustrial private forest landowners in Michigan by size class and owner attitudes and objectives concerning forest ownership, management, and use. Provides 57 tables relating owner and property characteristics for the State and its four Forest Survey Units.

KEY WORDS: Nonindustrial, owner objectives, owner attitudes, NIPFL, farm forest, other private, harvesting, forestry assistance.